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January 31, 2020

**HAND DELIVERED**

Gwen R. Pinson  
Executive Director  
Public Service Commission  
211 Sower Blvd.  
Frankfort, KY 40601

RECEIVED

JAN 31 2020

PUBLIC SERVICE  
COMMISSION

RE: KY PSC Case No. 2017-00453

Dear Ms. Pinson,

Please find enclosed the original and ten copies of Columbia Gas of Kentucky, Inc.'s Responses to Commission Staff's First Rehearing Request for Information in the above referenced matter. Please do not hesitate to contact me with any questions.

Sincerely,

A handwritten signature in blue ink that reads "Brooke E. Wancheck".

Brooke E. Wancheck  
Assistant General Counsel

Enclosure(s)

RECEIVED

JAN 31 2020

PUBLIC SERVICE  
COMMISSION

KY PSC Case No. 2017-00455

Commission Staff's Information Request Set 1 No. 1

Respondent: Michael D. Anderson

**COLUMBIA GAS OF KENTUCKY, INC.  
RESPONSE TO COMMISSION STAFF'S FIRST REHEARING  
INFORMATION REQUESTS  
DATED JANUARY 16, 2020**

1. Refer to the Direct Testimony of Michael D. Anderson (Anderson Testimony), page 4, lines 16-20.

- a. Explain how often Columbia Kentucky generally negotiates its capacity contracts.
- b. Explain how often Columbia Kentucky has negotiated its capacity contracts since the beginning of 2015.
- c. Explain in detail the capacity contract negotiation process for Columbia Kentucky.

**Response:**

- a. The negotiation of capacity contracts is dependent upon the term agreed upon in the prior contract. Historically contract renegotiation targeted 10-15 year term agreements however, given the numerous changes in the natural gas industry over the last 10 years the current general practice

is to contract for shorter terms. For its contract with Tennessee Gas Pipeline, Columbia has renegotiated the contract approximately every 5 years. For its base contracts with Columbia Gas Transmission, Columbia last negotiated terms in 2004.

b. Columbia has renegotiated its Tennessee Gas Pipeline contract in 2014 and 2019. Columbia is currently engaged in negotiations with Columbia Gas Transmission targeting a five year extension of its contracts.

c. In general, Columbia will review all potential pipeline options to serve its customers, assess costs, services and capacity availability of the potential options, including incorporation of gas commodity costs as appropriate and formulate a negotiation proposal based upon this information and any other information Columbia has been able to discover.

**COLUMBIA GAS OF KENTUCKY, INC.  
RESPONSE TO COMMISSION STAFF'S FIRST REHEARING  
INFORMATION REQUESTS  
DATED JANUARY 16, 2020**

2. Refer to the Anderson Testimony, page 6, lines 14-15. Explain in detail how Columbia Kentucky is able to negotiate a consistent discounted rate despite an increasing Federal Energy Regulatory Commission (FERC) rate.

**Response:**

The reference on page 6, lines 14-15 refers to Columbia's preservation of the value of the existing discounted rate by avoiding incurrence of a new surcharge resulting from Columbia Gas Transmission's Modernization Programs. Columbia utilizes its knowledge of FERC precedent, Columbia Gas Transmission operations, alternative resources, and general negotiating processes to preserve the value of the negotiated rate.

**COLUMBIA GAS OF KENTUCKY, INC.**  
**RESPONSE TO COMMISSION STAFF'S FIRST REHEARING**  
**INFORMATION REQUESTS**  
**DATED JANUARY 16, 2020**

3. Refer to the Anderson Testimony, pages 7-8.

- a. Explain in detail how Columbia Kentucky was able to negotiate with Columbia Gas Transmission Corporation (TCO) to not be subject to the Capital Cost Recovery Mechanism (CCRM) rider. Provide documentation where applicable.
- b. Explain whether Columbia Kentucky is aware of any other utility served by TCO, including large local distribution company (LDC) affiliates, that is not subject to the CCRM rider.
- c. Explain in detail any incremental risk and effort undertaken by Columbia Kentucky with regard to negotiating contract rates, over and

above those already undertaken beginning in 2012, following the Commission's approval of the TCI in Case No. 2014-00350.<sup>1</sup>

**Response:**

- a. Please see response to Commission Staff's Information Request Set 1 No. 2.
- b. Columbia is generally aware of other LDCs with negotiated rates who avoided being subject to the CCRM rider through various publically available filings at the Federal Energy Regulatory Commission. No other Columbia affiliate has a contract that provides for avoidance of the CCRM rider regardless of whether the contract pays a discounted or maximum rate.
- c. Columbia did not incur any incremental risks in its negotiations to avoid the CCRM rider. However, Columbia did need to closely monitor and participated in Columbia Gas Transmission modernization negotiations, proposals and settlement documents to ensure that its discount was not reduced in this process.

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<sup>1</sup> See Case No. 2014-00350, *Application of Columbia Gas of Kentucky, Inc. to Consolidate and Convert Its Gas Cost Incentive Mechanism and Its Off-System Sales and Capacity Release Revenue Sharing Mechanism Into a Performance-Based Rate Mechanism* (Ky. PSC Mar. 27, 2015).

**COLUMBIA GAS OF KENTUCKY, INC.  
RESPONSE TO COMMISSION STAFF'S FIRST REHEARING  
INFORMATION REQUESTS  
DATED JANUARY 16, 2020**

4. Refer to the Anderson Testimony, page 8, lines 1-11.
- a. Explain whether Columbia Kentucky believes that the benchmark rate should still include the CCRM rider billed by TCO if it is not a component of Columbia Kentucky's Storage Service Transportation (SST) contract with TCO.
  - b. Provide the date that FERC approved the CCRM rider.
  - c. Explain if any negotiations regarding the CCRM rider and Columbia Kentucky's SST capacity contracts have occurred after FERC's approval of the rider.

**Response:**

- a. Yes, Columbia believes the benchmark rate should include the CCRM as billed by TCO regardless of whether the CCRM is paid by Columbia Kentucky for its SST contract with TCO. The CCRM rider is a

FERC approved rider additive to Columbia Gas Transmission base SST rate. Columbia successfully negotiated avoidance of the CCRM rider and in any renegotiation of its SST contract the CCRM rider represents a component of the just and reasonable rate established for service under the SST tariff. Thus, the CCRM rider should be incorporated in the benchmark rate because in the absence of a negotiation by Columbia, the rate would be paid as part of the cost of SST service.

b. FERC first approved the CCRM rider in Case No. RP12-1021-000 January 24, 2013 and the CCRM was first applied to customer charges effective February 1, 2014.

c. The initial approval of the CCRM rider occurred in what is generally known as the Columbia Gas Transmission Modernization Program I ("MOD I") which covered modernization investment by Columbia Gas Transmission for the period of 2013 through 2017. Columbia Gas Transmission and its customers, including Columbia, negotiated a renewal of the CCRM in the Columbia Gas Transmission Modernization Program II negotiations ("MOD II"). In MOD II the original CCRM from MOD I was rolled into Columbia Gas Transmissions base transportation rates, including SST base rates and a new CCRM designed to recover Columbia Gas Transmission modernization investments under MOD II was created.

Columbia has been an active participant in negotiations for both MOD I and MOD II.

**COLUMBIA GAS OF KENTUCKY, INC.  
RESPONSE TO COMMISSION STAFF'S FIRST REHEARING  
INFORMATION REQUESTS  
DATED JANUARY 16, 2020**

5. Refer to the Anderson Testimony, pages 8-9. Provide a timeline of when the interstate pipeline systems changed the flow direction of natural gas.

**Response:**

The reversal of flow on the interstate pipeline system is individualized for each pipeline. Generally reversal of flow started as a seasonal process later to become more year round. While planning for reversal of flow occurs several years in advance of the actual transition, the transition on Texas Eastern Gas Transmission occurred in the 2016 – 17 time frame. For Tennessee Gas Pipeline, the transition occurred in the 2013 time frame while on Columbia Gas Transmission / Columbia Gulf Transmission systems the transition occurred in the 2017-18 time frame.

**COLUMBIA GAS OF KENTUCKY, INC.  
RESPONSE TO COMMISSION STAFF'S FIRST REHEARING  
INFORMATION REQUESTS  
DATED JANUARY 16, 2020**

6. Refer to the Anderson Testimony, pages 9-10, and the Direct Testimony of Judy M. Cooper (Cooper Testimony), pages 7-10, regarding Columbia Kentucky's recommendation for how the Transportation Cost Index (TCI) benchmark should be set. Provide an electronic version detailing Columbia Kentucky's recommended benchmark rate set against the Total Actual Transportation Cost beginning with the flow month for February 2014 to the present in Excel spreadsheet format with all formulas intact and unprotected, and with all columns and rows accessible.<sup>2</sup>

**Response:**

Columbia's recommendation for the TCI Benchmark is the total Federal Energy Regulatory Commission's ("FERC") approved monthly rates for the applicable month for Columbia Gas Transmission, LLC ("TCO") SST and Tennessee Gas Pipeline FT-A service as shown on Attachment A. This attachment

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<sup>2</sup> For an example, refer to the monthly performance based rate calculation, TCI calculation sheets included in Columbia Kentucky's proposed GCA report in Case No. 2019-00139, *Purchased Gas Adjustment Filing of Columbia Gas of Kentucky, Inc.* (filed May 1, 2019).

shows how the TCO SST and Tennessee Gas Pipeline FT-A capacity discounts fit into the TCI component of the PBR mechanism monthly from February 2014 through January 2020. Attachment A calculates the Pre-sharing value of the TCI. The example footnoted by Staff in GCA Case No. 2019-00139 reflects an allocation of the Company's share of total PBR savings, including capacity release, to all three components of the PBR (TCI, GCI & OSSI) after application of the PBR sharing formula is applied. Attachment Staff-1-6 shows how the TCO FERC approved rate for SST and Tennessee Gas Pipeline FERC approved rate for FT-A capacities has changed since 2014. As seen on Attachment A the changes in the FERC approved TCO SST rate has been driven largely by cost impacts from Columbia Gas Transmission's Modernization Programs.

**Columbia Gas of Kentucky, Inc.**

KY PSC Case No. 2017-00453  
 Commission Staff's Data Request Set 1 No. 6  
 Attachment Staff-1-6

**Proposed TCI calculation**

Month	Base SST Tariff Rate	TCRA Surcharge	EPCA Surcharge	OTRA Surcharge	CCRM	Total FERC Approved TCO SST Rates	Contract SST Demand Charge	Difference applied to TCI	SST Contract Volume	Pre-sharing TCI Value Tied to SST
Feb-14	\$ 4.830	\$ 0.335	\$ 0.065	\$ 0.121	\$ 0.393	\$ 5.744	\$ 4.185	\$ 1.559	220,880	\$ 344,351.92
Mar-14	\$ 4.830	\$ 0.335	\$ 0.065	\$ 0.121	\$ 0.393	\$ 5.744	\$ 4.185	\$ 1.559	220,880	\$ 344,351.92
Apr-14	\$ 4.830	\$ 0.280	\$ 0.059	\$ 0.121	\$ 0.393	\$ 5.683	\$ 4.185	\$ 1.498	110,440	\$ 165,439.12
May-14	\$ 4.830	\$ 0.280	\$ 0.059	\$ 0.336	\$ 0.393	\$ 5.898	\$ 4.185	\$ 1.713	110,440	\$ 189,183.72
Jun-14	\$ 4.830	\$ 0.280	\$ 0.059	\$ 0.336	\$ 0.393	\$ 5.898	\$ 4.185	\$ 1.713	110,440	\$ 189,183.72
Jul-14	\$ 4.830	\$ 0.280	\$ 0.059	\$ 0.336	\$ 0.393	\$ 5.898	\$ 4.185	\$ 1.713	110,440	\$ 189,183.72
Aug-14	\$ 4.830	\$ 0.280	\$ 0.059	\$ 0.336	\$ 0.393	\$ 5.898	\$ 4.185	\$ 1.713	110,440	\$ 189,183.72
Sep-14	\$ 4.830	\$ 0.280	\$ 0.059	\$ 0.336	\$ 0.393	\$ 5.898	\$ 4.185	\$ 1.713	110,440	\$ 189,183.72
Oct-14	\$ 4.830	\$ 0.280	\$ 0.059	\$ 0.336	\$ 0.393	\$ 5.898	\$ 4.185	\$ 1.713	220,880	\$ 378,367.44
Nov-14	\$ 4.830	\$ 0.280	\$ 0.059	\$ 0.336	\$ 0.393	\$ 5.898	\$ 4.185	\$ 1.713	220,880	\$ 378,367.44
Dec-14	\$ 4.830	\$ 0.280	\$ 0.059	\$ 0.129	\$ 0.393	\$ 5.691	\$ 4.185	\$ 1.506	220,880	\$ 332,645.28
Jan-15	\$ 4.830	\$ 0.280	\$ 0.059	\$ 0.129	\$ 0.393	\$ 5.691	\$ 4.185	\$ 1.506	220,880	\$ 332,645.28
Feb-15	\$ 4.774	\$ 0.280	\$ 0.059	\$ 0.129	\$ 0.719	\$ 5.961	\$ 4.185	\$ 1.776	220,880	\$ 392,282.88
Mar-15	\$ 4.774	\$ 0.280	\$ 0.059	\$ 0.129	\$ 0.719	\$ 5.961	\$ 4.185	\$ 1.776	220,880	\$ 392,282.88
Apr-15	\$ 4.774	\$ 0.258	\$ 0.059	\$ 0.129	\$ 0.719	\$ 5.939	\$ 4.185	\$ 1.754	110,440	\$ 193,711.76
May-15	\$ 4.774	\$ 0.258	\$ 0.059	\$ 0.151	\$ 0.719	\$ 5.961	\$ 4.185	\$ 1.776	110,440	\$ 196,141.44
Jun-15	\$ 4.774	\$ 0.258	\$ 0.059	\$ 0.151	\$ 0.719	\$ 5.961	\$ 4.185	\$ 1.776	110,440	\$ 196,141.44
Jul-15	\$ 4.774	\$ 0.258	\$ 0.059	\$ 0.151	\$ 0.719	\$ 5.961	\$ 4.185	\$ 1.776	110,440	\$ 196,141.44
Aug-15	\$ 4.774	\$ 0.258	\$ 0.059	\$ 0.151	\$ 0.719	\$ 5.961	\$ 4.185	\$ 1.776	110,440	\$ 196,141.44
Sep-15	\$ 4.774	\$ 0.258	\$ 0.059	\$ 0.151	\$ 0.719	\$ 5.961	\$ 4.185	\$ 1.776	110,440	\$ 196,141.44
Oct-15	\$ 4.774	\$ 0.258	\$ 0.059	\$ 0.151	\$ 0.719	\$ 5.961	\$ 4.185	\$ 1.776	220,880	\$ 392,282.88
Nov-15	\$ 4.774	\$ 0.258	\$ 0.059	\$ 0.151	\$ 0.719	\$ 5.961	\$ 4.185	\$ 1.776	220,880	\$ 392,282.88
Dec-15	\$ 4.774	\$ 0.258	\$ 0.059	\$ 0.115	\$ 0.719	\$ 5.925	\$ 4.185	\$ 1.740	220,880	\$ 384,331.20
Jan-16	\$ 4.774	\$ 0.258	\$ 0.059	\$ 0.115	\$ 0.719	\$ 5.925	\$ 4.185	\$ 1.740	220,880	\$ 384,331.20
Feb-16	\$ 4.774	\$ 0.258	\$ 0.059	\$ 0.115	\$ 1.044	\$ 6.250	\$ 4.185	\$ 2.065	220,880	\$ 456,117.20
Mar-16	\$ 4.774	\$ 0.258	\$ 0.059	\$ 0.115	\$ 1.044	\$ 6.250	\$ 4.185	\$ 2.065	220,880	\$ 456,117.20
Apr-16	\$ 4.774	\$ 0.232	\$ 0.070	\$ 0.115	\$ 1.044	\$ 6.235	\$ 4.185	\$ 2.050	110,440	\$ 226,402.00
May-16	\$ 4.601	\$ 0.232	\$ 0.070	\$ 0.073	\$ 1.044	\$ 6.020	\$ 4.185	\$ 1.835	110,440	\$ 202,657.40
Jun-16	\$ 4.601	\$ 0.232	\$ 0.070	\$ 0.073	\$ 1.044	\$ 6.020	\$ 4.185	\$ 1.835	110,440	\$ 202,657.40
Jul-16	\$ 4.601	\$ 0.232	\$ 0.070	\$ 0.073	\$ 1.044	\$ 6.020	\$ 4.185	\$ 1.835	110,440	\$ 202,657.40
Aug-16	\$ 4.601	\$ 0.232	\$ 0.070	\$ 0.073	\$ 1.044	\$ 6.020	\$ 4.185	\$ 1.835	110,440	\$ 202,657.40
Sep-16	\$ 4.601	\$ 0.232	\$ 0.070	\$ 0.073	\$ 1.044	\$ 6.020	\$ 4.185	\$ 1.835	110,440	\$ 202,657.40
Oct-16	\$ 4.601	\$ 0.232	\$ 0.070	\$ 0.073	\$ 1.044	\$ 6.020	\$ 4.185	\$ 1.835	220,880	\$ 405,314.80
Nov-16	\$ 4.601	\$ 0.232	\$ 0.070	\$ 0.073	\$ 1.044	\$ 6.020	\$ 4.185	\$ 1.835	220,880	\$ 405,314.80
Dec-16	\$ 4.601	\$ 0.232	\$ 0.070	\$ 0.019	\$ 1.044	\$ 5.966	\$ 4.185	\$ 1.781	220,880	\$ 393,387.28
Jan-17	\$ 4.601	\$ 0.232	\$ 0.070	\$ 0.019	\$ 1.044	\$ 5.966	\$ 4.185	\$ 1.781	220,880	\$ 393,387.28
Feb-17	\$ 4.601	\$ 0.232	\$ 0.070	\$ 0.019	\$ 1.336	\$ 6.258	\$ 4.185	\$ 2.073	220,880	\$ 457,884.24
Mar-17	\$ 4.601	\$ 0.232	\$ 0.070	\$ 0.019	\$ 1.336	\$ 6.258	\$ 4.185	\$ 2.073	220,880	\$ 457,884.24
Apr-17	\$ 4.601	\$ 0.205	\$ 0.065	\$ 0.019	\$ 1.336	\$ 6.226	\$ 4.185	\$ 2.041	110,440	\$ 225,408.04
May-17	\$ 4.601	\$ 0.205	\$ 0.065	\$ 0.112	\$ 1.336	\$ 6.319	\$ 4.185	\$ 2.134	110,440	\$ 235,678.96
Jun-17	\$ 4.601	\$ 0.205	\$ 0.065	\$ 0.112	\$ 1.336	\$ 6.319	\$ 4.185	\$ 2.134	110,440	\$ 235,678.96
Jul-17	\$ 4.601	\$ 0.205	\$ 0.065	\$ 0.112	\$ 1.336	\$ 6.319	\$ 4.185	\$ 2.134	110,440	\$ 235,678.96
Aug-17	\$ 4.601	\$ 0.205	\$ 0.065	\$ 0.112	\$ 1.336	\$ 6.319	\$ 4.185	\$ 2.134	110,440	\$ 235,678.96
Sep-17	\$ 4.601	\$ 0.205	\$ 0.065	\$ 0.112	\$ 1.336	\$ 6.319	\$ 4.185	\$ 2.134	110,440	\$ 235,678.96
Oct-17	\$ 4.601	\$ 0.205	\$ 0.065	\$ 0.112	\$ 1.336	\$ 6.319	\$ 4.185	\$ 2.134	220,880	\$ 471,357.92
Nov-17	\$ 4.601	\$ 0.205	\$ 0.065	\$ 0.112	\$ 1.336	\$ 6.319	\$ 4.185	\$ 2.134	220,880	\$ 471,357.92
Dec-17	\$ 4.601	\$ 0.205	\$ 0.065	\$ (0.016)	\$ 1.336	\$ 6.191	\$ 4.185	\$ 2.006	220,880	\$ 443,085.28
Jan-18	\$ 4.324	\$ 0.205	\$ 0.065	\$ (0.016)	\$ 1.193	\$ 5.771	\$ 4.185	\$ 1.586	220,880	\$ 350,315.68
Feb-18	\$ 4.324	\$ 0.205	\$ 0.065	\$ (0.016)	\$ 1.487	\$ 6.065	\$ 4.185	\$ 1.880	220,880	\$ 415,254.40
Mar-18	\$ 4.324	\$ 0.205	\$ 0.065	\$ (0.016)	\$ 1.487	\$ 6.065	\$ 4.185	\$ 1.880	220,880	\$ 415,254.40
Apr-18	\$ 4.324	\$ 0.224	\$ 0.077	\$ (0.016)	\$ 1.487	\$ 6.096	\$ 4.185	\$ 1.911	220,880	\$ 422,101.68

May-18	\$ 4.324	\$ 0.224	\$ 0.077	\$ 0.015	\$ 1.487	\$ 6.127	\$ 4.185	\$ 1.942	110,440	\$ 214,474.48
Jun-18	\$ 4.324	\$ 0.224	\$ 0.077	\$ 0.015	\$ 1.487	\$ 6.127	\$ 4.185	\$ 1.942	110,440	\$ 214,474.48
Jul-18	\$ 4.324	\$ 0.224	\$ 0.077	\$ 0.015	\$ 1.487	\$ 6.127	\$ 4.185	\$ 1.942	110,440	\$ 214,474.48
Aug-18	\$ 4.324	\$ 0.224	\$ 0.077	\$ 0.015	\$ 1.487	\$ 6.127	\$ 4.185	\$ 1.942	110,440	\$ 214,474.48
Sep-18	\$ 4.324	\$ 0.224	\$ 0.077	\$ 0.015	\$ 1.487	\$ 6.127	\$ 4.185	\$ 1.942	110,440	\$ 214,474.48
Oct-18	\$ 4.324	\$ 0.224	\$ 0.077	\$ 0.015	\$ 1.487	\$ 6.127	\$ 4.185	\$ 1.942	110,440	\$ 214,474.48
Nov-18	\$ 4.324	\$ 0.224	\$ 0.077	\$ 0.015	\$ 1.487	\$ 6.127	\$ 4.185	\$ 1.942	220,880	\$ 428,948.96
Dec-18	\$ 4.324	\$ 0.224	\$ 0.077	\$ 0.062	\$ 1.487	\$ 6.174	\$ 4.185	\$ 1.989	220,880	\$ 439,330.32
Jan-19	\$ 4.324	\$ 0.224	\$ 0.077	\$ 0.062	\$ 1.487	\$ 6.174	\$ 4.185	\$ 1.989	220,880	\$ 439,330.32
Feb-19	\$ 5.743	\$ 0.224	\$ 0.077	\$ 0.062	\$ 0.474	\$ 6.580	\$ 4.185	\$ 2.395	220,880	\$ 529,007.60
Mar-19	\$ 5.743	\$ 0.224	\$ 0.077	\$ 0.062	\$ 0.474	\$ 6.580	\$ 4.185	\$ 2.395	220,880	\$ 529,007.60
Apr-19	\$ 5.743	\$ 0.257	\$ 0.058	\$ 0.062	\$ 0.474	\$ 6.594	\$ 4.185	\$ 2.409	220,880	\$ 532,099.92
May-19	\$ 5.743	\$ 0.257	\$ 0.058	\$ 0.047	\$ 0.474	\$ 6.579	\$ 4.185	\$ 2.394	110,440	\$ 264,393.36
Jun-19	\$ 5.743	\$ 0.290	\$ 0.058	\$ 0.047	\$ 0.474	\$ 6.612	\$ 4.185	\$ 2.427	110,440	\$ 268,037.88
Jul-19	\$ 5.743	\$ 0.290	\$ 0.058	\$ 0.047	\$ 0.474	\$ 6.612	\$ 4.185	\$ 2.427	110,440	\$ 268,037.88
Aug-19	\$ 5.743	\$ 0.290	\$ 0.058	\$ 0.047	\$ 0.474	\$ 6.612	\$ 4.185	\$ 2.427	110,440	\$ 268,037.88
Sep-19	\$ 5.743	\$ 0.290	\$ 0.058	\$ 0.047	\$ 0.474	\$ 6.612	\$ 4.185	\$ 2.427	110,440	\$ 268,037.88
Oct-19	\$ 5.743	\$ 0.290	\$ 0.058	\$ 0.047	\$ 0.474	\$ 6.612	\$ 4.185	\$ 2.427	110,440	\$ 268,037.88
Nov-19	\$ 5.743	\$ 0.290	\$ 0.058	\$ 0.047	\$ 0.474	\$ 6.612	\$ 4.185	\$ 2.427	220,880	\$ 536,075.76
Dec-19	\$ 5.743	\$ 0.290	\$ 0.058	\$ 0.089	\$ 0.474	\$ 6.654	\$ 4.185	\$ 2.469	220,880	\$ 545,352.72
Jan-20	\$ 5.743	\$ 0.290	\$ 0.058	\$ 0.089	\$ 0.474	\$ 6.654	\$ 4.185	\$ 2.469	220,880	\$ 545,352.72

# Columbia Gas of Kentucky, Inc.

KY PSC Case No. 2017-00453

Commission Staff's Data Request Set 1 No. 6

Attachment Staff-1-6

## Proposed TCI calculation

Month	Base FTA Tariff Rate	PS/GHG Surcharge	Total FERC Approved TGP FTA Rates	Contract FTA Demand Charge	Difference applied to TCI	TGP FTA Contract Volume	Pre-sharing TCI Value Tied to FTA
Feb-14	\$ 15.5407	\$ -	\$ 15.5407	\$ 4.6238	\$ 10.9169	20,506	\$ 223,861.95
Mar-14	\$ 15.5407	\$ -	\$ 15.5407	\$ 4.6238	\$ 10.9169	20,506	\$ 223,861.95
Apr-14	\$ 15.5407	\$ -	\$ 15.5407	\$ 4.6238	\$ 10.9169	20,506	\$ 223,861.95
May-14	\$ 15.5407	\$ -	\$ 15.5407	\$ 4.6238	\$ 10.9169	20,506	\$ 223,861.95
Jun-14	\$ 15.5407	\$ -	\$ 15.5407	\$ 4.6238	\$ 10.9169	20,506	\$ 223,861.95
Jul-14	\$ 15.5407	\$ -	\$ 15.5407	\$ 4.6238	\$ 10.9169	20,506	\$ 223,861.95
Aug-14	\$ 15.5407	\$ -	\$ 15.5407	\$ 4.6238	\$ 10.9169	20,506	\$ 223,861.95
Sep-14	\$ 15.5407	\$ -	\$ 15.5407	\$ 4.6238	\$ 10.9169	20,506	\$ 223,861.95
Oct-14	\$ 15.5407	\$ -	\$ 15.5407	\$ 4.6238	\$ 10.9169	20,506	\$ 223,861.95
Nov-14	\$ 15.5407	\$ 0.0403	\$ 15.5810	\$ 4.6028	\$ 10.9782	20,506	\$ 225,118.97
Dec-14	\$ 15.5407	\$ 0.0403	\$ 15.5810	\$ 4.6028	\$ 10.9782	20,506	\$ 225,118.97
Jan-15	\$ 15.5407	\$ 0.0403	\$ 15.5810	\$ 4.6028	\$ 10.9782	20,506	\$ 225,118.97
Feb-15	\$ 15.5407	\$ 0.0403	\$ 15.5810	\$ 4.6028	\$ 10.9782	20,506	\$ 225,118.97
Mar-15	\$ 15.5407	\$ 0.0403	\$ 15.5810	\$ 4.6028	\$ 10.9782	20,506	\$ 225,118.97
Apr-15	\$ 15.5407	\$ 0.0403	\$ 15.5810	\$ 4.6028	\$ 10.9782	20,506	\$ 225,118.97
May-15	\$ 15.5407	\$ 0.0403	\$ 15.5810	\$ 4.6028	\$ 10.9782	20,506	\$ 225,118.97
Jun-15	\$ 15.5407	\$ 0.0403	\$ 15.5810	\$ 4.6028	\$ 10.9782	20,506	\$ 225,118.97
Jul-15	\$ 15.5407	\$ 0.0403	\$ 15.5810	\$ 4.6028	\$ 10.9782	20,506	\$ 225,118.97
Aug-15	\$ 15.5407	\$ 0.0403	\$ 15.5810	\$ 4.6028	\$ 10.9782	20,506	\$ 225,118.97
Sep-15	\$ 15.5407	\$ 0.0403	\$ 15.5810	\$ 4.6028	\$ 10.9782	20,506	\$ 225,118.97
Oct-15	\$ 15.5407	\$ 0.0403	\$ 15.5810	\$ 4.6028	\$ 10.9782	20,506	\$ 225,118.97
Nov-15	\$ 15.0745	\$ 0.0198	\$ 15.0943	\$ 4.5823	\$ 10.5120	20,506	\$ 215,559.07
Dec-15	\$ 15.0745	\$ 0.0198	\$ 15.0943	\$ 4.5823	\$ 10.5120	20,506	\$ 215,559.07
Jan-16	\$ 15.0745	\$ 0.0198	\$ 15.0943	\$ 4.5823	\$ 10.5120	20,506	\$ 215,559.07
Feb-16	\$ 15.0745	\$ 0.0198	\$ 15.0943	\$ 4.5823	\$ 10.5120	20,506	\$ 215,559.07
Mar-16	\$ 15.0745	\$ 0.0198	\$ 15.0943	\$ 4.5823	\$ 10.5120	20,506	\$ 215,559.07
Apr-16	\$ 15.0745	\$ 0.0198	\$ 15.0943	\$ 4.5823	\$ 10.5120	20,506	\$ 215,559.07
May-16	\$ 15.0745	\$ 0.0198	\$ 15.0943	\$ 4.5823	\$ 10.5120	20,506	\$ 215,559.07
Jun-16	\$ 15.0745	\$ 0.0198	\$ 15.0943	\$ 4.5823	\$ 10.5120	20,506	\$ 215,559.07
Jul-16	\$ 15.0745	\$ 0.0198	\$ 15.0943	\$ 4.5823	\$ 10.5120	20,506	\$ 215,559.07
Aug-16	\$ 15.0745	\$ 0.0198	\$ 15.0943	\$ 4.5823	\$ 10.5120	20,506	\$ 215,559.07
Sep-16	\$ 15.0745	\$ 0.0198	\$ 15.0943	\$ 4.5823	\$ 10.5120	20,506	\$ 215,559.07
Oct-16	\$ 15.0745	\$ 0.0198	\$ 15.0943	\$ 4.5823	\$ 10.5120	20,506	\$ 215,559.07
Nov-16	\$ 15.0745	\$ 0.0210	\$ 15.0955	\$ 4.5835	\$ 10.5120	20,506	\$ 215,559.07
Dec-16	\$ 15.0745	\$ 0.0210	\$ 15.0955	\$ 4.5835	\$ 10.5120	20,506	\$ 215,559.07

Jan-17	\$ 15.0745	\$ 0.0210	\$ 15.0955	\$ 4.5835	\$ 10.5120	20,506	\$ 215,559.07
Feb-17	\$ 15.0745	\$ 0.0210	\$ 15.0955	\$ 4.5835	\$ 10.5120	20,506	\$ 215,559.07
Mar-17	\$ 15.0745	\$ 0.0210	\$ 15.0955	\$ 4.5835	\$ 10.5120	20,506	\$ 215,559.07
Apr-17	\$ 15.0745	\$ 0.0210	\$ 15.0955	\$ 4.5835	\$ 10.5120	20,506	\$ 215,559.07
May-17	\$ 15.0745	\$ 0.0210	\$ 15.0955	\$ 4.5835	\$ 10.5120	20,506	\$ 215,559.07
Jun-17	\$ 15.0745	\$ 0.0210	\$ 15.0955	\$ 4.5835	\$ 10.5120	20,506	\$ 215,559.07
Jul-17	\$ 15.0745	\$ 0.0210	\$ 15.0955	\$ 4.5835	\$ 10.5120	20,506	\$ 215,559.07
Aug-17	\$ 15.0745	\$ 0.0210	\$ 15.0955	\$ 4.5835	\$ 10.5120	20,506	\$ 215,559.07
Sep-17	\$ 15.0745	\$ 0.0210	\$ 15.0955	\$ 4.5835	\$ 10.5120	20,506	\$ 215,559.07
Oct-17	\$ 15.0745	\$ 0.0210	\$ 15.0955	\$ 4.5835	\$ 10.5120	20,506	\$ 215,559.07
Nov-17	\$ 15.0745	\$ 0.0216	\$ 15.0961	\$ 4.5841	\$ 10.5120	20,506	\$ 215,559.07
Dec-17	\$ 15.0745	\$ 0.0216	\$ 15.0961	\$ 4.5841	\$ 10.5120	20,506	\$ 215,559.07
Jan-18	\$ 15.0745	\$ 0.0216	\$ 15.0961	\$ 4.5841	\$ 10.5120	20,506	\$ 215,559.07
Feb-18	\$ 15.0745	\$ 0.0216	\$ 15.0961	\$ 4.5841	\$ 10.5120	20,506	\$ 215,559.07
Mar-18	\$ 15.0745	\$ 0.0216	\$ 15.0961	\$ 4.5841	\$ 10.5120	20,506	\$ 215,559.07
Apr-18	\$ 15.0745	\$ 0.0216	\$ 15.0961	\$ 4.5841	\$ 10.5120	20,506	\$ 215,559.07
May-18	\$ 15.0745	\$ 0.0216	\$ 15.0961	\$ 4.5841	\$ 10.5120	20,506	\$ 215,559.07
Jun-18	\$ 15.0745	\$ 0.0216	\$ 15.0961	\$ 4.5841	\$ 10.5120	20,506	\$ 215,559.07
Jul-18	\$ 15.0745	\$ 0.0216	\$ 15.0961	\$ 4.5841	\$ 10.5120	20,506	\$ 215,559.07
Aug-18	\$ 15.0745	\$ 0.0216	\$ 15.0961	\$ 4.5841	\$ 10.5120	20,506	\$ 215,559.07
Sep-18	\$ 15.0745	\$ 0.0216	\$ 15.0961	\$ 4.5841	\$ 10.5120	20,506	\$ 215,559.07
Oct-18	\$ 15.0745	\$ 0.0216	\$ 15.0961	\$ 4.5841	\$ 10.5120	20,506	\$ 215,559.07
Nov-18	\$ 14.7637	\$ 0.0168	\$ 14.7805	\$ 4.5793	\$ 10.2012	20,506	\$ 209,185.81
Dec-18	\$ 14.7637	\$ 0.0168	\$ 14.7805	\$ 4.5793	\$ 10.2012	20,506	\$ 209,185.81
Jan-19	\$ 14.7637	\$ 0.0168	\$ 14.7805	\$ 4.5793	\$ 10.2012	20,506	\$ 209,185.81
Feb-19	\$ 14.7637	\$ 0.0168	\$ 14.7805	\$ 4.5793	\$ 10.2012	20,506	\$ 209,185.81
Mar-19	\$ 14.7637	\$ 0.0168	\$ 14.7805	\$ 4.5793	\$ 10.2012	20,506	\$ 209,185.81
Apr-19	\$ 14.7637	\$ 0.0168	\$ 14.7805	\$ 4.5793	\$ 10.2012	20,506	\$ 209,185.81
May-19	\$ 14.7637	\$ 0.0168	\$ 14.7805	\$ 4.5793	\$ 10.2012	20,506	\$ 209,185.81
Jun-19	\$ 14.7637	\$ 0.0168	\$ 14.7805	\$ 4.5793	\$ 10.2012	20,506	\$ 209,185.81
Jul-19	\$ 14.7637	\$ 0.0168	\$ 14.7805	\$ 4.5793	\$ 10.2012	20,506	\$ 209,185.81
Aug-19	\$ 14.7637	\$ 0.0168	\$ 14.7805	\$ 4.5793	\$ 10.2012	20,506	\$ 209,185.81
Sep-19	\$ 14.7637	\$ 0.0168	\$ 14.7805	\$ 4.5793	\$ 10.2012	20,506	\$ 209,185.81
Oct-19	\$ 14.7637	\$ 0.0168	\$ 14.7805	\$ 4.5793	\$ 10.2012	20,506	\$ 209,185.81
Nov-19	\$ 13.5088	\$ 0.0181	\$ 13.5269	\$ 4.5806	\$ 8.9463	16,000	\$ 143,140.80
Dec-19	\$ 13.5088	\$ 0.0181	\$ 13.5269	\$ 4.5806	\$ 8.9463	16,000	\$ 143,140.80
Jan-20	\$ 13.5088	\$ 0.0181	\$ 13.5269	\$ 4.5806	\$ 8.9463	16,000	\$ 143,140.80

KY PSC Case No. 2017-00453  
Commission Staff's Information Request Set 1 No. 7  
Respondent: Judy M. Cooper and Michael D. Anderson

**COLUMBIA GAS OF KENTUCKY, INC.  
RESPONSE TO COMMISSION STAFF'S FIRST REHEARING  
INFORMATION REQUESTS  
DATED JANUARY 16, 2020**

7. Refer to the Cooper Testimony, page 4, lines 19-20. Explain in detail the incremental risk taken by Columbia Kentucky due to the Performance-Based Rate (PBR) mechanism.

**Response:**

The incremental risk taken by Columbia in its PBR mechanism as authorized by the Commission in Case No. 2014-00350 is additional uncertainty introduced into the winter season planning process by including a daily or weekly index into the planning process. Columbia's capacity portfolio incorporates a large storage component that requires significant planning to ensure its reliability and availability during the winter season. The additional uncertainty is incremental risk to reliability. Columbia's primary objective is to provide firm reliable gas service to meet all firm supply demand requirements. Columbia strives to mitigate the incremental risk in its planning process.

The Commission's modifications to Columbia's PBR as set forth in its Order of October 22, 2019 were discussed with Commission Staff in an Informal Conference on November 26, 2019. Columbia had requested the Informal Conference to obtain clarification on provisions of the Order that required calculation of a percentage gross-up factor that, "On the date of entry of this Order, percentage changes in Columbia Transmission's FERC tariff will be applied to Columbia Kentucky's Transportation Cost benchmark, setting forth a new benchmark for the period going forward." Columbia presented its understanding of the language set forth in the Commission's Order. Columbia's understanding of the language differed from the interpretation of Commission Staff and Columbia came to realize that a significant financial risk was created by the difference in interpretation.

**COLUMBIA GAS OF KENTUCKY, INC.  
RESPONSE TO COMMISSION STAFF'S FIRST REHEARING  
INFORMATION REQUESTS  
DATED JANUARY 16, 2020**

8. Refer to the Cooper Testimony, page 5, lines 7-8. in which Ms. Cooper states that more than fifteen years ago, following a period of significant cost increases in natural gas and concern as to the reliability of supply, the Commission undertook a comprehensive review of the natural gas procurement practices of LDCs subject to its jurisdiction.

- a. Explain whether, and if so how, the concerns for the cost of natural gas and reliability of supply still hold true in the present time.
- b. Compare and contrast the cost of natural gas and the reliability of supply from "more than fifteen years ago" to the present time.

**Response:**

a. and b. Concerns for the cost of natural gas and reliability of supply exist today but the concerns are from a different perspective. The significant cost increases in

natural gas that occurred in the late 1990's – early 2000's were mitigated by the discovery of shale gas and rich domestic reserves with advanced technology to extract the gas. The challenge for supply is different today because it reflects the increase in competition related to use of natural gas for electric generation and LNG exports. This evolution of the market has created new competition for pipeline infrastructure to deliver the commodity to markets and consumers. Therein lies the different perspective on the reliability concern. As Columbia witness Anderson has described in his testimony, interstate pipelines have significantly changed the operations of their pipelines that deliver the commodity to city-gate markets. Awareness of the age and condition of pipelines; and risk to safety and reliability associated with age, condition, materials, changing residential, commercial and industrial developments and competitive markets are all different perspectives today than they were fifteen years ago, but they have only shifted concerns for natural gas affordability and reliability. The concerns have not gone away.

KY PSC Case No. 2017-00453

Commission Staff's Information Request Set 1 No. 9

Respondent: Michael D. Anderson

**COLUMBIA GAS OF KENTUCKY, INC.**

**RESPONSE TO COMMISSION STAFF'S FIRST REHEARING**

**INFORMATION REQUESTS**

**DATED JANUARY 16, 2020**

9. Refer to the Cooper Testimony, page 5, lines 9-14, regarding the natural gas procurement practices. Also, refer to Columbia Kentucky's responses to Commission Staff's requests for information regarding Columbia Kentucky's gas procurement methodology (Staff's gas procurement methodology request) included in its Gas Cost Adjustment (GCA) report in Case No. 2018-00253.<sup>3</sup> Provide any update available of the natural gas procurement practices of Columbia Kentucky as requested below.

- a. Provide copies of all interstate pipeline transportation and storage contracts and tariffs utilized during the most recent year. Further, provide a comparison of the terms of these transportation arrangements with those that have been utilized since Staff's gas procurement methodology request. Provide an explanation of all efforts to ensure that interstate pipeline transportation costs were and remain at the lowest possible cost.

- b. Provide any updated copies of all current contracts for commodity supply, updated to reflect any changes made subsequent to Staff's request regarding gas procurement methodology. Provide a comparison of the terms of these commodity supply arrangements with those that were utilized during the five previous calendar years. Provide an explanation of all efforts to ensure that commodity gas supply costs were and remain at the lowest possible cost, consistent with security of supply.
- c. Provide updated gas supply and capacity contract summaries showing significant contract terms, daily/monthly/annual entitlements, and pricing. Identify any capacity changes (renegotiated and expired agreements, de-contracting, assignment, or long-term release) since Staff's gas procurement methodology request.
- d. Provide an update of Columbia Kentucky's storage arrangements, and state the maximum daily injection and withdrawal rates and the decline in deliverability that occurs as gas is withdrawn, updated to reflect any changes occurring subsequent to Staff's request regarding gas procurement methodology.
- e. Provide an update of the capacity of any peaking arrangements made since Staff's gas procurement methodology request.

- f. Provide an updated copy of any written procedures in use by Columbia Kentucky for nominations and dispatching since Staff's gas procurement methodology request.
- g. If Columbia Kentucky has utilized gas marketing/trading organizations to obtain gas supplies subsequent to Staff's gas procurement methodology request, indicate which organizations were employed, gas volumes purchased, prices, terms, and current contractual arrangements between Columbia Kentucky and these marketing firms.
- h. Provide a summary of the Request for Proposal/bidding process for gas supply since Staff's gas procurement methodology request that provides the original bid documents, a listing of the suppliers that were contacted, the responses to the request for bid, the evaluation process that led to the selection of a supplier, and any written procedures that exist for this activity.
- i. Provide an updated copy of Columbia Kentucky's most recent gas supply plan and a written description of its gas supply planning process since Staff's gas procurement methodology request.
- j. Provide an updated narrative description of any supply-planning

computer models currently being used by Columbia Kentucky or being considered for future use since Staff's gas procurement methodology request.

k. Provide updated organization charts of the overall corporate organization and of the gas planning, gas purchasing, and gas operations functions subsequent to Staff's gas procurement methodology request. Describe any changes that have occurred in the corporate, gas planning and purchasing, and gas operations organizations since Staff's gas procurement methodology request, and any changes that are underway or contemplated within the next five years.

l. Provide job descriptions of the personnel working in the gas planning, gas purchasing, and gas operating functions.

m. Provide updated copies of reports or internal audits or reviews of any aspect of the supply function conducted since Staff's gas procurement methodology request. Include reports prepared by Columbia Kentucky and outside auditors.

n. Provide an updated copy of Columbia Kentucky's strategic plan with primary emphasis on gas procurement, transmission, delivery, and expansion, including all significant related capital expenditures since Staff's gas procurement methodology request.

**Response:**

a. Attachment A is a CKY summary contracts file and Attachment B are copies of the requested pipeline contracts and storage contracts that were utilized and in place the most recent year. The only change since the last submission of pipeline contracts is the addition of one pipeline contract on TCO for 5,124 Dth/d, which is contract number 191914. Also attached as Attachment C are copies of the tariffs utilized and in place during the most recent year. There have been no changes in the usage methodology of any of these contracts.

b. There are currently no term contracts for commodity supply in place for Columbia Kentucky. Please refer to CONFIDENTIAL Attachment D which provides the requested comparison of the commodity contracts for the current year versus the commodity contracts that were utilized in the previous five years by Columbia Kentucky. Each year Columbia Kentucky issues an RFP for winter term commodity supplies. This is a competitive bidding process. The bid responses are reviewed and analyzed, and the best cost, reliable supplies are selected.

The comparison reveals that the deep discounts received for purchasing Broadrun (the interconnect between Tennessee Gas Pipeline and Columbia Gas Transmission pipeline) supplies in the earlier years continued to diminish from the 2014-2015 winter period through the 2017-2018 winter period. Bids received for the 2018-2019 and 2019-2020 periods revealed no discount for term winter commodity supplies. It was decided that commodity supplies for the winter periods would be purchased on a monthly basis rather than be contracted for a 3 to 5 month winter term.

Columbia traders, on a monthly and daily basis now secure the best cost commodity supplies possible in the market place. This allows for more purchasing flexibility to better accommodate the new procurement methodology. Less gas is now purchased on a monthly basis and Columbia Kentucky utilized its storage assets to serve firm demand as prices increase in the winter months. During periods when prices decrease within the month, daily purchases can be executed. This in turn, helps to increase customer savings by reducing gas costs.

c. Place refer to the response for (a) above. That response contains all of the requested information.

d. No changes occurring subsequent to Staff's request regarding gas procurement methodology.

e. Columbia has not entered into any peaking arrangements since Staff's gas procurement methodology request.

f. Columbia has made no changes to its nominations and dispatching processes since Staff's gas procurement methodology request.

g. Columbia's sole purpose in utilizing marketing/trading organizations is to procure supplies at upstream purchase points. Columbia does not employ these organizations for any other purpose.

h. There have been no changes since Staff's gas procurement methodology request.

i. Columbia has made no changes to its gas supply plan or its gas supply planning process since Staff's gas procurement methodology request.

j. Columbia utilizes the same supply-planning computer models as described in Staff's gas procurement methodology request. Columbia, as part of the NiSource organization, will conduct testing in the near future of

a potential replacement for its SENDOUT® least cost procurement model.

No determination to replace SENDOUT® has been made.

k. The current organization charts of the corporate organization and of the gas planning, gas purchasing, and gas operations functions are attached as Attachment E. The Energy Supply and Optimization organization (“ES&O”) of NiSource is charged with carrying out the gas planning, gas purchasing, and gas operations functions for Columbia. At various times since Staff’s gas procurement methodology request, parts of the organization reported to different Vice-Presidents and Sr. Vice Presidents. As of November 2019 the Demand Forecasting functions were moved to the ES&O organization and reporting to the Director of Supply & Capacity Management. The ES&O organization is neither presently undergoing any changes nor are any planned at this time.

l. Please see Attachment F.

m. There have been no updates or changes to any of the documentation previously provided.

n. Columbia has made no changes to its strategic plan since Staff's gas procurement methodology request. Columbia Kentucky is currently renegotiating its capacity portfolio with an intended design to reduce

current capacity levels on Columbia Gas Transmission and/or Central Kentucky Transmission.

**COLUMBIA GAS OF KENTUCKY, INC.  
 PORTFOLIO AS OF 11/01/19**

PARTY	NOTES	CONTRACT NUMBER	RATE SCHEDULE	TERMINATION DATE	NOTICE DATE		CONTRACT QUANTITY DTH	
CKT		88384	FTS	03/31/20	09/30/19		<b>28,000</b>	
CGT		79921	FTS-1	03/31/20	Terminated		28,991	
TCO		80160	SST	03/31/20	09/30/19	OCT-MAR APR-SEPT	<b>190,880</b> 95,440	
TCO		80171	FSS	03/31/20	09/30/19	MDQ SCQ	220,880 11,264,911	
TCO		81527	FTS	03/31/20	09/30/19		<b>20,014</b>	
TCO		81540	SST	03/31/20	09/30/19	OCT-MAR APR-SEPT	<b>30,000</b> 15,000	
TCO		191914	FTS	10/31/24	10/31/23		<b>5,124</b>	Effective 11/1/2019
TGP	1	52324-FTATG	FT-A	10/31/24	05/01/20		16,000	
VARIOUS CONTRACTS			LOCAL	VARIOUS			<b><u>7,100</u></b>	
<b>TOTAL PEAK DAY CITY GATE DELIVERY</b>							<b>281,118</b>	

(1) Contracts do not have rollover or ROFR rights. Will require renegotiation.

Service Agreement No. 79921  
Revision No. 2

### FTS-1 SERVICE AGREEMENT

THIS AGREEMENT is made and entered into this 15<sup>th</sup> day of May, 2019, by and between COLUMBIA GULF TRANSMISSION, LLC ("Transporter") and COLUMBIA GAS OF KENTUCKY, INC. ("Shipper").

WITNESSETH: That in consideration of the mutual covenants herein contained, the parties hereto agree as follows:

Section 1. Service to be Rendered. Transporter shall perform and Shipper shall receive the service in accordance with the provisions of the effective FTS-1 Rate Schedule and applicable General Terms and Conditions of Transporter's FERC Gas Tariff, Third Revised Volume No. 1 ("Tariff"), on file with the Federal Energy Regulatory Commission ("Commission"), as the same may be amended or superseded in accordance with the rules and regulations of the Commission herein contained. The maximum obligations of Transporter to deliver gas hereunder to or for Shipper, the designation of the points of delivery at which Transporter shall deliver or cause gas to be delivered to or for Shipper, and the points of receipt at which the Shipper shall deliver or cause gas to be delivered, are specified in Appendix A, as the same may be amended from time to time by agreement between Shipper and Transporter, or in accordance with the rules and regulations of the Commission.

Section 2. Term. Service under this Agreement shall commence as of November 1, 2019, and shall continue in full force and effect until March 31, 2020. Shipper and Transporter agree to avail themselves of the Commission's pre-granted abandonment authority upon termination of this Agreement, subject to any right of first refusal Shipper may have under the Commission's Regulations and Transporter's Tariff.

Section 3. Rates. Shipper shall pay the charges and furnish the Retainage as described in the above-referenced Rate Schedule, unless otherwise agreed to by the parties in writing and specified as an amendment to this Service Agreement. Transporter may agree to discount its rate to Shipper below Transporter's maximum rate, but not less than Transporter's minimum rate. Such discounted rate may apply to: (a) specified quantities (contract demand or commodity quantities); (b) specified quantities above or below a certain level or all quantities if quantities exceed a certain level; (c) quantities during specified time periods; (d) quantities at specified points, locations, or other defined geographical areas; (e) that a specified discounted rate will apply in a specified relationship to the quantities actually transported (i.e., that the reservation charge will be adjusted in a specified relationship to quantities actually transported); and (f) production and/or reserves committed by the Shipper.

Section 4. Notices. Notices to Transporter under this Agreement shall be addressed to it at 700 Louisiana St., Suite 700, Houston, Texas 77002-2700, Attention: Customer Services and notices to Shipper shall be addressed to it at Columbia Gas of Kentucky, Inc., 200 Civic Center Drive, P. O. Box 117, Columbus, OH 43216 0117, Attention: Thomas Heckathorn, until changed by either party by written notice.

Section 5. Superseded Agreements. This Service Agreement supersedes and cancels, as of the effective date hereof, the following Service Agreement(s): FTS-1 No. 79921, Revision No. 1.

COLUMBIA GAS OF KENTUCKY, INC.

By Muriel Alvelo  
Title V.P.  
Date 5.28.19

COLUMBIA GULF TRANSMISSION, LLC

By Carol Wehmann  
Title Manager, Procurement on Contracts  
Date 5-15-19

Review by tmm 5/17/2019

Revision No. 2

Appendix A to Service Agreement No. 79921  
 Under Rate Schedule FTS-1  
 between Columbia Gulf Transmission, LLC ("Transporter")  
 and Columbia Gas of Kentucky, Inc. ("Shipper").

Transportation Demand

<u>Begin Date</u>	<u>End Date</u>	<u>Transportation Demand Dth/day</u>	<u>Recurrence Interval</u>
11/01/2019	03/31/2020	28,991	1/1 - 12/31

Primary Receipt Points

<u>Begin Date</u>	<u>End Date</u>	<u>Measuring Point No.</u>	<u>Measuring Point Name</u>	<u>Maximum Daily Quantity (Dth/day)</u>	<u>Recurrence Interval</u>
11/01/2019	03/31/2020	2700010	CGT-RAYNE	28,991	1/1 - 12/31

Primary Delivery Points

<u>Begin Date</u>	<u>End Date</u>	<u>Measuring Point No.</u>	<u>Measuring Point Name</u>	<u>Maximum Daily Quantity (Dth/day)</u>	<u>Recurrence Interval</u>
11/01/2019	03/31/2020	801	GULF-LEACH	28,991	1/1 - 12/31

The Master List of Interconnects ("MLI") as defined in Section 1 of the General Terms and Conditions of Transporter's Tariff is incorporated herein by reference for purposes of listing valid secondary interruptible receipt points and delivery points.

Transporter and Shipper have mutually agreed to the following maximum or minimum pressure commitments:

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Yes  No (Check applicable blank) Transporter and Shipper have mutually agreed to a Regulatory Restructuring Reduction Option pursuant to Section 33 of the General Terms and Conditions of Transporter's FERC Gas Tariff.

Yes  No (Check applicable blank) Shipper has a contractual right of first refusal equivalent to the right of first refusal set forth from time to time in Section 4 of the General Terms and Conditions of Transporter's FERC Gas Tariff.

Yes  No (Check applicable blank) This Service Agreement covers interim capacity sold pursuant to the provisions of General Terms and Conditions Section 4. Right of first refusal rights, if any, applicable to this interim capacity are limited as provided for in General Terms and Conditions Section 4.

COLUMBIA GAS OF KENTUCKY, INC.

By *Michael Oliver*  
Title *V.P.*  
Date *5.28.19*

*Revised by Tm 5/17/2019*

COLUMBIA GULF TRANSMISSION, LLC

By *Carol Wehlmann*  
Title *Manages Transportation Contracts*  
Date *5-15-19*

Service Agreement No. 88384  
Revision No. 2

### FTS SERVICE AGREEMENT

THIS AGREEMENT is made and entered into this 25<sup>th</sup> day of October, 2013, by and between CENTRAL KENTUCKY TRANSMISSION COMPANY ("Transporter") and COLUMBIA GAS OF KENTUCKY, INC ("Shipper").

WITNESSETH: That in consideration of the mutual covenants herein contained, the parties hereto agree as follows:

Section 1. Service to be Rendered. Transporter shall perform and Shipper shall receive service in accordance with the provisions of the effective FTS Rate Schedule and applicable General Terms and Conditions of Transporter's FERC Gas Tariff, First Revised Volume No. 1 ("Tariff"), on file with the Federal Energy Regulatory Commission ("Commission"), as the same may be amended or superseded in accordance with the rules and regulations of the Commission. The maximum obligation of Transporter to deliver gas hereunder to or for Shipper, the designation of the points of delivery at which Transporter shall deliver or cause gas to be delivered to or for Shipper, and the points of receipt at which Shipper shall deliver or cause gas to be delivered, are specified in Appendix A, as the same may be amended from time to time by agreement between Shipper and Transporter, or in accordance with the rules and regulations of the Commission.

Section 2. Term. Service under this Agreement shall commence as of November 1, 2013, and shall continue in full force and effect until March 31, 2020. Pre-granted abandonment shall apply upon termination of this Agreement, subject to any right of first refusal Shipper may have under the Commission's regulations and Transporter's Tariff.

Section 3. Rates. Shipper shall pay Transporter the charges and furnish Retainage as described in the above-referenced Rate Schedule, unless otherwise agreed to by the parties in writing and specified as an amendment to this Agreement. Transporter may agree to discount its rate to Shipper below Transporter's maximum rate, but not less than Transporter's minimum rate. Such discounted rate may apply to: (a) specified quantities (contract demand or commodity quantities); (b) specified quantities above or below a certain level or all quantities if quantities exceed a certain level; (c) quantities during specified time periods; (d) quantities at specified points, locations, or other defined geographical areas; and (e) that a specified discounted rate will apply in a specified relationship to the quantities actually transported (i.e., that the reservation charge will be adjusted in a specified relationship to quantities actually transported). In addition, the discount agreement may include a provision that if one rate component which was at or below the applicable maximum rate at the time the discount agreement was executed subsequently exceeds the applicable maximum rate due to a change in Transporter's maximum rate so that such rate component must be adjusted downward to equal the new applicable maximum rate, then other rate components may be adjusted upward to achieve the agreed overall rate, so long as none of the resulting rate components exceed the maximum rate applicable to that rate component. Such changes to rate components shall be applied prospectively, commencing with the date a Commission order accepts revised tariff sections. However, nothing contained herein shall be construed to alter a refund obligation under applicable law for any period during which rates, which had been charged under a discount agreement, exceeded rates which ultimately are found to be just and reasonable.

Section 4. Notices. Notices to Transporter under this Agreement shall be addressed to it at 5151 San Felipe, Suite 2500, Houston, Texas 77056, Attention: Customer Services and notices to Shipper shall be addressed to it at Columbia Gas Of Kentucky, Inc, 200 Civic Center Drive, P. O. Box 117, Columbus, OH 43216 0117, Attention: Thomas Heckathorn, until changed by either party by written notice.

Section 5. Superseded Agreements. This Service Agreement supersedes and cancels, as of the effective date hereof, the following Service Agreement(s): FTS No. 88384, Revision No. 1.

COLUMBIA GAS OF KENTUCKY, INC

By Heather Davis  
Title VP  
Date 10/25/13

Reviewed by TMR 10/18/2013

CENTRAL KENTUCKY TRANSMISSION COMPANY

By Cynthia B. B. B.  
Title CS Team Leader  
Date 10/17/13

Appendix A to Service Agreement No. 88384  
 Under Rate Schedule FTS  
 between Central Kentucky Transmission Company ("Transporter")  
 and Columbia Gas Of Kentucky, Inc ("Shipper")

Transportation Demand

<u>Begin Date</u>	<u>End Date</u>	<u>Transportation Demand Dth/day</u>	<u>Recurrence Interval</u>
November 1, 2013	March 31, 2020	28,000	1/1 - 12/31

Primary Delivery Points

<u>Begin Date</u>	<u>End Date</u>	<u>Scheduling Point No.</u>	<u>Scheduling Point Name</u>	<u>Measuring Point No.</u>	<u>Measuring Point Name</u>	<u>Maximum Daily Quantity (Dth/day)</u>	<u>Recurrence Interval</u>
November 1, 2013	March 31, 2020	805095	LEXINGTON MUTH	805095	LEXINGTON MUTH	28,000	1/1 - 12/31

Minimum Delivery Point Pressure: 1/

Hourly Flow at Delivery Point Commitment/Restriction: 2/

Primary Receipt Points

<u>Begin Date</u>	<u>End Date</u>	<u>Scheduling Point No.</u>	<u>Scheduling Point Name</u>	<u>Measuring Point No.</u>	<u>Measuring Point Name</u>	<u>Maximum Daily Quantity (Dth/day)</u>	<u>Recurrence Interval</u>
November 1, 2013	March 31, 2020	BYBEE	BYBEE	BYBEE	BYBEE	28,000	1/1 - 12/31

Minimum Receipt Point Pressure: 1/

1/ If a minimum pressure is not specifically stated, then Transporter's obligation shall be as stated in Section 13 (Delivery Pressure) of the General Terms and Conditions.

2/ If an hourly flow commitment or restriction is not specifically stated, then Transporter's obligation shall be as stated in Section 9 (Operating Conditions) of the General Terms and Conditions.

The Master List of Interconnects ("MLI") as defined in Section 1 of the General Terms and Conditions of Transporter's Tariff is incorporated herein by reference for purposes of listing valid secondary interruptible receipt points and delivery points.

\_\_\_\_ Yes  No (Check applicable blank) Shipper has a contractual right of first refusal equivalent to the right of first refusal set forth from time to time in Section 4 of the General Terms and Conditions of Transporter's FERC Gas Tariff.

\_\_\_\_ Yes  No (Check applicable blank) This Service Agreement covers interim capacity sold pursuant to the provisions of General Terms and Conditions Section 4. Right of first refusal rights, if any, applicable to this interim capacity are limited as provided for in General Terms and Conditions Section 4.

COLUMBIA GAS OF KENTUCKY, INC

By Heather Bann  
Title VP  
Date 10/25/13

CENTRAL KENTUCKY TRANSMISSION COMPANY

By [Signature]  
Title CS Team Leader  
Date 10/17/13

*Reviewed by TMC 10/18/2013*

**Columbia Gas  
Transmission**  
A NiSource Company

1700 MacCorkle Ave SE  
PO Box 1273  
Charleston, WV 25326-1273

**Customer Services**

September 30, 2004

Mr. Scott Phelps  
Columbia Gas of Kentucky, Inc.  
200 Civic Center Drive  
Columbus, Ohio 43216-0117

Dear Mr. Phelps:

This letter shall serve as an amendment to the SST Service Agreement between Columbia Gas of Kentucky, Inc. (Shipper) and Columbia Gas Transmission Corporation (Transporter) designated as Transporter's Control No. 040524-0001.

- 1) Transporter and Shipper hereby agree that Section 3 of the above-referenced contract shall be amended to provide for a discounted rate under the terms and conditions set forth below.

(a) **Applicable Period:** November 1, 2004 through March 31, 2020.

(b) **Reservation Charge:** Discounted to provide a \$4.185 Demand Rate.

Notwithstanding the foregoing, the charge to be paid by Shipper to Transporter shall be no lower than the applicable total effective minimum charges set forth in Transporter's Federal Energy Regulatory Commission (FERC) Gas Tariff. Shipper shall be assessed and pay all applicable maximum Commodity and Overrun Charges and all applicable Surcharges, and shall be subject to retainage.

- 2) The provisions of this Agreement shall be deemed confidential and may not be disclosed by the parties, their agents or assigns, except upon written consent of the other party unless disclosure is required by law.

If the above meets with your approval, please have both copies of this letter executed by an authorized company representative of Columbia Gas of Kentucky, Inc. and return one to me.

Terms agreed to this 11<sup>th</sup> day of October, 2004.

**COLUMBIA GAS  
TRANSMISSION CORPORATION**

By: Michael O. Webb

Its: V.P.-Pricing & Volume Mgmt.

**COLUMBIA GAS OF KENTUCKY, INC.**

By: Daniel D. Gavito AB/3004

Its: V.P. Energy Supply Services

CAB/iss

Service Agreement No. 80160

Revision No. 7

### SST SERVICE AGREEMENT

THIS AGREEMENT is made and entered into this 23<sup>rd</sup> day of January, 2019, by and between COLUMBIA GAS TRANSMISSION, LLC ("Transporter") and COLUMBIA GAS OF KENTUCKY, INC. ("Shipper").

WITNESSETH: That in consideration of the mutual covenants herein contained, the parties hereto agree as follows:

Section 1. Service to be Rendered. Transporter shall perform and Shipper shall receive service in accordance with the provisions of the effective SST Rate Schedule and applicable General Terms and Conditions of Transporter's FERC Gas Tariff, Fourth Revised Volume No. 1 ("Tariff"), on file with the Federal Energy Regulatory Commission ("Commission"), as the same may be amended or superseded in accordance with the rules and regulations of the Commission. The maximum obligation of Transporter to deliver gas hereunder to or for Shipper, the designation of the points of delivery at which Transporter shall deliver or cause gas to be delivered to or for Shipper, and the points of receipt at which Shipper shall deliver or cause gas to be delivered, are specified in Appendix A, as the same may be amended from time to time by agreement between Shipper and Transporter, or in accordance with the rules and regulations of the Commission.

Section 2. Term. Service under this Agreement shall commence as of February 1, 2019, and shall continue in full force and effect until March 31, 2020. Pre-granted abandonment shall apply upon termination of this Agreement, subject to any right of first refusal Shipper may have under the Commission's regulations and Transporter's Tariff.

Section 3. Rates. Shipper shall pay Transporter the charges and furnish Retainage as described in the above-referenced Rate Schedule, unless otherwise agreed to by the parties in writing and specified as an amendment to this Service Agreement. Transporter may agree to discount its rate to Shipper below Transporter's maximum rate, but not less than Transporter's minimum rate. Such discounted rate may apply to: (a) specified quantities (contract demand or commodity quantities); (b) specified quantities above or below a certain level or all quantities if quantities exceed a certain level; (c) quantities during specified time periods; (d) quantities at specified points, locations, or other defined geographical areas; (e) that a specified discounted rate will apply in a specified relationship to the quantities actually transported (i.e., that the reservation charge will be adjusted in a specified relationship to quantities actually transported); (f) production and/or reserves committed by the Shipper; and (g) based on a formula including, but not limited to, published index prices for specific receipt and/or delivery points or other agreed-upon pricing points, provided that the resulting rate shall be no lower than the minimum nor higher than the maximum applicable rate set forth in the Tariff. In addition, the discount agreement may include a provision that if one rate component which was at or below the applicable maximum rate at the time the discount agreement was executed subsequently exceeds the applicable maximum rate due to a change in Transporter's maximum rate so that such rate component must be adjusted downward to equal the new applicable maximum rate, then other rate components may be adjusted upward to achieve the agreed overall rate, so long as none of the resulting rate components exceed the maximum rate applicable to that rate component. Such changes to rate components shall be applied prospectively, commencing with the date a Commission order accepts revised tariff sections. However, nothing contained herein shall be construed to alter a refund obligation under applicable law for any period during which rates, which had been charged under a discount agreement, exceeded rates which ultimately are found to be just and reasonable.

Section 4. Notices. Notices to Transporter under this Agreement shall be addressed to it at 700 Louisiana

St., Suite 700, Houston, Texas 77002-2700, Attention: Customer Services and notices to Shipper shall be addressed to it at Columbia Gas of Kentucky, Inc., 290 W. Nationwide Blvd., Columbus, OH 43215, Attention: Dan Grieshop, until changed by either party by written notice.

Section 5. Superseded Agreements. This Service Agreement supersedes and cancels, as of the effective date hereof, the following Service Agreement(s): SST No. 80160, Revision No. 6.

COLUMBIA GAS OF KENTUCKY, INC.

By Michael D. Wats  
Title V.P.  
Date 1-14-19

COLUMBIA GAS TRANSMISSION, LLC

By Carol Wickham  
Title Manager, Infrastructure Contracts  
Date 1-23-19

Reviewed by TMC 1/14/2019

Appendix A to Service Agreement No. 80160  
 Under Rate Schedule SST  
 between Columbia Gas Transmission, LLC ("Transporter")  
 and Columbia Gas of Kentucky, Inc. ("Shipper").

Transportation Demand

<u>Begin Date</u>	<u>End Date</u>	<u>Transportation Demand Dth/day</u>	<u>Recurrence Interval</u>
02/01/2019	03/31/2020	190,880	10/1 - 3/31
02/01/2019	03/31/2020	95,440	4/1 - 9/30

Primary Receipt Points

<u>Begin Date</u>	<u>End Date</u>	<u>Scheduling Point No.</u>	<u>Scheduling Point Name</u>	<u>Maximum Daily Quantity (Dth/day)</u>	<u>Recurrence Interval</u>
02/01/2019	03/31/2020	STOR	RP Storage Point TCO	190,880	10/1 - 3/31
02/01/2019	03/31/2020	STOR	RP Storage Point TCO	95,440	4/1 - 9/30

Primary Delivery Points

<u>Begin Date</u>	<u>End Date</u>	<u>Scheduling Point No.</u>	<u>Scheduling Point Name</u>	<u>Measuring Point No.</u>	<u>Measuring Point Name</u>	<u>Maximum Daily Delivery Obligation (Dth/day) 1/</u>	<u>Design Daily Quantity (Dth/day) 1/</u>	<u>Minimum Delivery Pressure Obligation (psig) 1/</u>	<u>Recurrence Interval</u>
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	400143	CKY PAY GAS CONSUMER	134	134		10/1 - 3/31
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	400147	CKY PAY GAS CONSUMER	83	83		10/1 - 3/31
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	801584	ASHLAND OIL REF.	15,073	1,043	200	10/1 - 3/31

Primary Delivery Points

<u>Begin Date</u>	<u>End Date</u>	<u>Scheduling Point No.</u>	<u>Scheduling Point Name</u>	<u>Measuring Point No.</u>	<u>Measuring Point Name</u>	<u>Maximum Daily Delivery Obligation (Dth/day) 1/</u>	<u>Design Daily Quantity (Dth/day) 1/</u>	<u>Minimum Delivery Pressure Obligation (psig) 1/</u>	<u>Recurrence Interval</u>
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	803264	FULLERTON DP	1,071	888	100	10/1 - 3/31
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	803423	FLATWOODS	274	274	200	10/1 - 3/31
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	803759	DUPONT	335		200	10/1 - 3/31
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	803773	CKY ASHLAND 8TH STREE	7,726	4,666	50	10/1 - 3/31
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	803848	MARKWEST HYDROCARB	788	49	100	10/1 - 3/31
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	804193	CALGON	3,143	1,627	50	10/1 - 3/31
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	804313	WURLAND D.P. (EM)	3,719	2,719	200	10/1 - 3/31
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	804319	WESTWOOD	1,615	1,615	200	10/1 - 3/31
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	804324	ASH.-BUCKLY RD.	485	257	50	10/1 - 3/31
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	804329	GREENUP-UPPER RIGGS	77	30	200	10/1 - 3/31
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	804345	GREENUP-LOWER RIGGS	251	198	200	10/1 - 3/31
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	804373	GREENUP-UPPER RIGGS	71	71	200	10/1 - 3/31
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	804374	GREENUP-CENTER RIGGS	62	62	200	10/1 - 3/31
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	804375	FLATWOODS	139	133	200	10/1 - 3/31
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	804379	RACELAND-POPLAR HGTS	83	39	200	10/1 - 3/31
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	804423	GREENUP CENTER	145	103	200	10/1 - 3/31
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	804711	ASH-FRIENDSHIP RD.	777	405	50	10/1 - 3/31
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	804949	INTERNATIONAL NICKEL	2,020	272	50	10/1 - 3/31
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	805174	CANNONSBURG	343	343	40	10/1 - 3/31
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	805609	SUMMIT CITY	354	335	50	10/1 - 3/31
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	805633	BELHAVEN	212	212	200	10/1 - 3/31
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	805676	HILLCREST APTS.	137	57	50	10/1 - 3/31
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	805815	BRUCE APTS.	36	34	50	10/1 - 3/31
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	814791	AMETEK CORP.	37	16	200	10/1 - 3/31
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	838145	Marathon Line U	2,000		260	10/1 - 3/31

Primary Delivery Points

<u>Begin Date</u>	<u>End Date</u>	<u>Scheduling Point No.</u>	<u>Scheduling Point Name</u>	<u>Measuring Point No.</u>	<u>Measuring Point Name</u>	<u>Maximum Daily Obligation (Dth/day) 1/</u>	<u>Design Daily Quantity (Dth/day) 1/</u>	<u>Minimum Delivery Pressure Obligation (psig) 1/</u>	<u>Recurrence Interval</u>
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	400143	CKY PAY GAS CONSUMER	67	67		4/1 - 9/30
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	400147	CKY PAY GAS CONSUMER	42	42		4/1 - 9/30
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	801584	ASHLAND OIL REF.	7,537	522	200	4/1 - 9/30
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	803264	FULLERTON DP	536	444	100	4/1 - 9/30
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	803423	FLATWOODS	137	137	200	4/1 - 9/30
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	803759	DUPONT	168		200	4/1 - 9/30
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	803773	CKY ASHLAND 8TH STREE	3,863	2,333	50	4/1 - 9/30
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	803848	MARKWEST HYDROCARB	394	25	100	4/1 - 9/30
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	804193	CALGON	1,572	814	50	4/1 - 9/30
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	804313	WURLAND D.P. (EM)	1,860	1,360	200	4/1 - 9/30
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	804319	WESTWOOD	808	808	200	4/1 - 9/30
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	804324	ASH.-BUCKLY RD.	243	129	50	4/1 - 9/30
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	804329	GREENUP-UPPER RIGGS	39	15	200	4/1 - 9/30
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	804345	GREENUP-LOWER RIGGS	126	99	200	4/1 - 9/30
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	804373	GREENUP-UPPER RIGGS	36	36	200	4/1 - 9/30
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	804374	GREENUP-CENTER RIGGS	31	31	200	4/1 - 9/30
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	804375	FLATWOODS	70	67	200	4/1 - 9/30
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	804379	RACELAND-POPLAR HGTS	42	20	200	4/1 - 9/30
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	804423	GREENUP CENTER	73	52	200	4/1 - 9/30
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	804711	ASH-FRIENDSHIP RD.	389	203	50	4/1 - 9/30
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	804949	INTERNATIONAL NICKEL	1,010	136	50	4/1 - 9/30
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	805174	CANNONSBURG	172	172	40	4/1 - 9/30
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	805609	SUMMIT CITY	177	168	50	4/1 - 9/30
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	805633	BELHAVEN	106	106	200	4/1 - 9/30
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	805676	HILLCREST APTS.	69	29	50	4/1 - 9/30

Primary Delivery Points

<u>Begin Date</u>	<u>End Date</u>	<u>Scheduling Point No.</u>	<u>Scheduling Point Name</u>	<u>Measuring Point No.</u>	<u>Measuring Point Name</u>	<u>Maximum Daily Delivery Obligation (Dth/day) 1/</u>	<u>Design Daily Quantity (Dth/day) 1/</u>	<u>Minimum Delivery Pressure Obligation (psig) 1/</u>	<u>Recurrence Interval</u>
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	805815	BRUCE APTS.	18	17	50	4/1 - 9/30
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	814791	AMETEK CORP.	19	8	200	4/1 - 9/30
02/01/2019	03/31/2020	17-15	COL GAS OF KY 03-15	838145	Marathon Line U	1,000		260	4/1 - 9/30
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	400137	CKY PAY GAS CONSUMER	140	140		10/1 - 3/31
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	400139	CKY PAY GAS CONSUMER	157	157		10/1 - 3/31
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	400149	CKY PAY GAS CONSUMER	216	216		10/1 - 3/31
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	400151	CKY PAY GAS CONSUMER	43	43		10/1 - 3/31
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	400153	CKY PAY GAS CONSUMER	66	66		10/1 - 3/31
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	400155	CKY PAY GAS CONSUMER	24	24		10/1 - 3/31
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	803769	LOUISA POD	699	699		10/1 - 3/31
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	803770	LOUISA	113	112		10/1 - 3/31
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	803771	HAROLD-LAYNESVILLE	112	112		10/1 - 3/31
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	803772	HAROLD-LAYNESVILLE	493	493		10/1 - 3/31
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	803775	LOUISA POD	1,171	1,000		10/1 - 3/31
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	803782	LANCER	237	237		10/1 - 3/31
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	804127	CANEY CK. COMMUNITY	132	131		10/1 - 3/31
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	804517	BRANDY KEG CK.	21	12		10/1 - 3/31
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	804767	MARTIN GAS CO.	47	32		10/1 - 3/31
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	804779	KNOTT CO. BD. OF EDUC.	29	29		10/1 - 3/31
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	804954	MIKE LITTLE GAS CO.	132	122	50	10/1 - 3/31
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	805682	AMERICAN STANDARD	213	68		10/1 - 3/31
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	805686	PIPPA PASSES	12	11		10/1 - 3/31
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	814637	ALICE LLOYD COLLEGE	54	45		10/1 - 3/31
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	817722	GREEN MEADOWS D.P.	70	70		10/1 - 3/31
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	820005	EAST KENTUCKY PAVING	796			10/1 - 3/31

Primary Delivery Points

<u>Begin Date</u>	<u>End Date</u>	<u>Scheduling Point No.</u>	<u>Scheduling Point Name</u>	<u>Measuring Point No.</u>	<u>Measuring Point Name</u>	<u>Maximum Daily Delivery Obligation (Dth/day) 1/</u>	<u>Design Daily Quantity (Dth/day) 1/</u>	<u>Minimum Delivery Pressure Obligation (psig) 1/</u>	<u>Recurrence Interval</u>
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	823289	SOUTH WILLIAMSON D.P.	643	519		10/1 - 3/31
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	828673	Martin Housing Authority	36	33		10/1 - 3/31
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	846041	BIG SANDY ASPHALT	0			10/1 - 3/31
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	400137	CKY PAY GAS CONSUMER	70	70		4/1 - 9/30
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	400139	CKY PAY GAS CONSUMER	79	79		4/1 - 9/30
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	400149	CKY PAY GAS CONSUMER	108	108		4/1 - 9/30
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	400151	CKY PAY GAS CONSUMER	22	22		4/1 - 9/30
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	400153	CKY PAY GAS CONSUMER	33	33		4/1 - 9/30
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	400155	CKY PAY GAS CONSUMER	12	12		4/1 - 9/30
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	803769	LOUISA POD	350	350		4/1 - 9/30
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	803770	LOUISA	57	56		4/1 - 9/30
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	803771	HAROLD-LAYNESVILLE	56	56		4/1 - 9/30
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	803772	HAROLD-LAYNESVILLE	247	247		4/1 - 9/30
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	803775	LOUISA POD	586	500		4/1 - 9/30
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	803782	LANCER	119	119		4/1 - 9/30
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	804127	CANEY CK. COMMUNITY	66	66		4/1 - 9/30
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	804517	BRANDY KEG CK.	11	6		4/1 - 9/30
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	804767	MARTIN GAS CO.	24	16		4/1 - 9/30
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	804779	KNOTT CO. BD. OF EDUC.	15	15		4/1 - 9/30
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	804954	MIKE LITTLE GAS CO.	66	61	50	4/1 - 9/30
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	805682	AMERICAN STANDARD	107	34		4/1 - 9/30
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	805686	PIPPA PASSES	6	6		4/1 - 9/30
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	814637	ALICE LLOYD COLLEGE	27	23		4/1 - 9/30
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	817722	GREEN MEADOWS D.P.	35	35		4/1 - 9/30
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	820005	EAST KENTUCKY PAVING	398			4/1 - 9/30

Primary Delivery Points

<u>Begin Date</u>	<u>End Date</u>	<u>Scheduling Point No.</u>	<u>Scheduling Point Name</u>	<u>Measuring Point No.</u>	<u>Measuring Point Name</u>	<u>Maximum Daily Delivery Obligation (Dth/day) 1/</u>	<u>Design Daily Quantity (Dth/day) 1/</u>	<u>Minimum Delivery Pressure Obligation (psig) 1/</u>	<u>Recurrence Interval</u>
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	823289	SOUTH WILLIAMSON D.P.	322	260		4/1 - 9/30
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	828673	Martin Housing Authority	18	17		4/1 - 9/30
02/01/2019	03/31/2020	17-16	COL GAS OF KY 03-16	846041	BIG SANDY ASPHALT	0			4/1 - 9/30
02/01/2019	03/31/2020	17-18	COL GAS OF KY 03-18	420043	INEZ-WALLBRIDGE KY PA	4	4		10/1 - 3/31
02/01/2019	03/31/2020	17-18	COL GAS OF KY 03-18	420043	INEZ-WALLBRIDGE KY PA	2	2		4/1 - 9/30
02/01/2019	03/31/2020	18-10	COL GAS OF KY 06-10	400157	CKY PAY GAS CONSUMER	486	486		10/1 - 3/31
02/01/2019	03/31/2020	18-10	COL GAS OF KY 06-10	803618	FOSTER D P	58	58	50	10/1 - 3/31
02/01/2019	03/31/2020	18-10	COL GAS OF KY 06-10	805258	CKY-STEPSTONE	3,511	3,000	200	10/1 - 3/31
02/01/2019	03/31/2020	18-10	COL GAS OF KY 06-10	829541	LAKE CARNICO	40,129	24,979	500	10/1 - 3/31
02/01/2019	03/31/2020	18-10	COL GAS OF KY 06-10	400157	CKY PAY GAS CONSUMER	243	243		4/1 - 9/30
02/01/2019	03/31/2020	18-10	COL GAS OF KY 06-10	803618	FOSTER D P	29	29	50	4/1 - 9/30
02/01/2019	03/31/2020	18-10	COL GAS OF KY 06-10	805258	CKY-STEPSTONE	1,756	1,500	200	4/1 - 9/30
02/01/2019	03/31/2020	18-10	COL GAS OF KY 06-10	829541	LAKE CARNICO	20,065	12,490	500	4/1 - 9/30
02/01/2019	03/31/2020	18-11	COL GAS OF KY 06-11	803523	MAYSVILLE D.P.	6,513	6,018	150	10/1 - 3/31
02/01/2019	03/31/2020	18-11	COL GAS OF KY 06-11	803585	WASHINGTON -HIGHLAND	89	89	150	10/1 - 3/31
02/01/2019	03/31/2020	18-11	COL GAS OF KY 06-11	804451	WASHINGTON - MAIN TAP	1,700	1,700	150	10/1 - 3/31
02/01/2019	03/31/2020	18-11	COL GAS OF KY 06-11	804940	MAYSVILLE EAST TAP	53	51	150	10/1 - 3/31
02/01/2019	03/31/2020	18-11	COL GAS OF KY 06-11	805158	GERMANTOWN	276	275	150	10/1 - 3/31
02/01/2019	03/31/2020	18-11	COL GAS OF KY 06-11	834119	MAYSVILLE MATERIALS	825		150	10/1 - 3/31
02/01/2019	03/31/2020	18-11	COL GAS OF KY 06-11	834288	MAYSVILLE INDUSTRIAL	400	200	200	10/1 - 3/31
02/01/2019	03/31/2020	18-11	COL GAS OF KY 06-11	803523	MAYSVILLE D.P.	3,257	3,009	150	4/1 - 9/30
02/01/2019	03/31/2020	18-11	COL GAS OF KY 06-11	803585	WASHINGTON -HIGHLAND	45	45	150	4/1 - 9/30
02/01/2019	03/31/2020	18-11	COL GAS OF KY 06-11	804451	WASHINGTON - MAIN TAP	850	850	150	4/1 - 9/30
02/01/2019	03/31/2020	18-11	COL GAS OF KY 06-11	804940	MAYSVILLE EAST TAP	27	26	150	4/1 - 9/30
02/01/2019	03/31/2020	18-11	COL GAS OF KY 06-11	805158	GERMANTOWN	138	138	150	4/1 - 9/30

Primary Delivery Points

<u>Begin Date</u>	<u>End Date</u>	<u>Scheduling Point No.</u>	<u>Scheduling Point Name</u>	<u>Measuring Point No.</u>	<u>Measuring Point Name</u>	<u>Maximum Daily Delivery Obligation (Dth/day) 1/</u>	<u>Design Daily Quantity (Dth/day) 1/</u>	<u>Minimum Delivery Pressure Obligation (psig) 1/</u>	<u>Recurrence Interval</u>
02/01/2019	03/31/2020	18-11	COL GAS OF KY 06-11	834119	MAYSVILLE MATERIALS	413		150	4/1 - 9/30
02/01/2019	03/31/2020	18-11	COL GAS OF KY 06-11	834288	MAYSVILLE INDUSTRIAL	200	100	200	4/1 - 9/30
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	400169	CKY PAY GAS CONSUMER	188	188		10/1 - 3/31
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	400173	CKY PAY GAS CONSUMER	462	462		10/1 - 3/31
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	803537	PHILIPS LIGHTING COMPA	197	179	150	10/1 - 3/31
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	803599	MT. STERLING D.P.	4,208	4,200	400	10/1 - 3/31
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	803600	CKY WINCHESTER	7,251	6,823	350	10/1 - 3/31
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	803602	PARIS CYNTHIANA	12,008	6,970	275	10/1 - 3/31
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	804399	BYBEE POTTERY	27	14	150	10/1 - 3/31
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	805233	CIRCUIT COURT	1,069	984	200	10/1 - 3/31
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	805460	WINCHESTER RT. 89	5,739	4,371	200	10/1 - 3/31
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	805544	WACO -BYBEE	261	261	150	10/1 - 3/31
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	805546	AVON-CLINTONVILLE	407	407	150	10/1 - 3/31
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	805776	ATHENS	132	131	250	10/1 - 3/31
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	805968	YEISER, INC...	62	60	200	10/1 - 3/31
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	817712	HILLCREST SUBDIVISION	136	136	150	10/1 - 3/31
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	817714	YORKTOWN MOBILE HOM	53	51	150	10/1 - 3/31
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	817715	KERRS MOBILE HOME PA	24	24	150	10/1 - 3/31
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	817716	WAYLAND AVE. D.P.	46	46	150	10/1 - 3/31
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	817717	JUDIANA & ROCKWELL	210	127	200	10/1 - 3/31
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	817718	BOONE VILLAGE	72	72	250	10/1 - 3/31
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	817719	COUNTRY CLUB HTS.	47	47	150	10/1 - 3/31
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	817721	UNION CITY D.P.	54	54	150	10/1 - 3/31
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	820375	LEXINGTON	87,255	83,913	250	10/1 - 3/31
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	823283	WINCHESTER FARMS DAI	2,000	1,300	200	10/1 - 3/31

Primary Delivery Points

<u>Begin Date</u>	<u>End Date</u>	<u>Scheduling Point No.</u>	<u>Scheduling Point Name</u>	<u>Measuring Point No.</u>	<u>Measuring Point Name</u>	<u>Maximum Daily Delivery Obligation (Dth/day) 1/</u>	<u>Design Daily Quantity (Dth/day) 1/</u>	<u>Minimum Delivery Pressure Obligation (psig) 1/</u>	<u>Recurrence Interval</u>
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	832885	SOUTHERN HILLS SUBDIV	0			10/1 - 3/31
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	400169	CKY PAY GAS CONSUMER	94	94		4/1 - 9/30
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	400173	CKY PAY GAS CONSUMER	231	231		4/1 - 9/30
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	803537	PHILIPS LIGHTING COMPA	99	90	150	4/1 - 9/30
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	803599	MT. STERLING D.P.	2,104	2,100	400	4/1 - 9/30
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	803600	CKY WINCHESTER	3,626	3,412	350	4/1 - 9/30
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	803602	PARIS CYNTHIANA	6,004	3,485	275	4/1 - 9/30
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	804399	BYBEE POTTERY	14	7	150	4/1 - 9/30
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	805233	CIRCUIT COURT	535	492	200	4/1 - 9/30
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	805460	WINCHESTER RT. 89	2,870	2,186	200	4/1 - 9/30
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	805544	WACO -BYBEE	131	131	150	4/1 - 9/30
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	805546	AVON-CLINTONVILLE	204	204	150	4/1 - 9/30
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	805776	ATHENS	66	66	250	4/1 - 9/30
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	805968	YEISER, INC...	31	30	200	4/1 - 9/30
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	817712	HILLCREST SUBDIVISION	68	68	150	4/1 - 9/30
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	817714	YORKTOWN MOBILE HOM	27	26	150	4/1 - 9/30
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	817715	KERRS MOBILE HOME PA	12	12	150	4/1 - 9/30
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	817716	WAYLAND AVE. D.P.	23	23	150	4/1 - 9/30
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	817717	JUDIANA & ROCKWELL	105	64	200	4/1 - 9/30
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	817718	BOONE VILLAGE	36	36	250	4/1 - 9/30
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	817719	COUNTRY CLUB HTS.	24	24	150	4/1 - 9/30
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	817721	UNION CITY D.P.	27	27	150	4/1 - 9/30
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	820375	LEXINGTON	43,628	41,957	250	4/1 - 9/30
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	823283	WINCHESTER FARMS DAI	1,000	650	200	4/1 - 9/30
02/01/2019	03/31/2020	18-12	COL GAS OF KY 06-12	832885	SOUTHERN HILLS SUBDIV	0			4/1 - 9/30

Primary Delivery Points

<u>Begin Date</u>	<u>End Date</u>	<u>Scheduling Point No.</u>	<u>Scheduling Point Name</u>	<u>Measuring Point No.</u>	<u>Measuring Point Name</u>	<u>Maximum Daily Delivery Obligation (Dth/day) 1/</u>	<u>Design Daily Quantity (Dth/day) 1/</u>	<u>Minimum Delivery Pressure Obligation (psig) 1/</u>	<u>Recurrence Interval</u>
02/01/2019	03/31/2020	18-13	COL GAS OF KY 06-13	400165	CKY PAY GAS CONSUMER	21	21		10/1 - 3/31
02/01/2019	03/31/2020	18-13	COL GAS OF KY 06-13	400167	CKY PAY GAS CONSUMER	50	50		10/1 - 3/31
02/01/2019	03/31/2020	18-13	COL GAS OF KY 06-13	804301	CKY-IRVINE	3,453	3,453	150	10/1 - 3/31
02/01/2019	03/31/2020	18-13	COL GAS OF KY 06-13	817720	WINSTON D.P. LINE	89	89	150	10/1 - 3/31
02/01/2019	03/31/2020	18-13	COL GAS OF KY 06-13	400165	CKY PAY GAS CONSUMER	11	11		4/1 - 9/30
02/01/2019	03/31/2020	18-13	COL GAS OF KY 06-13	400167	CKY PAY GAS CONSUMER	25	25		4/1 - 9/30
02/01/2019	03/31/2020	18-13	COL GAS OF KY 06-13	804301	CKY-IRVINE	1,727	1,727	150	4/1 - 9/30
02/01/2019	03/31/2020	18-13	COL GAS OF KY 06-13	817720	WINSTON D.P. LINE	45	45	150	4/1 - 9/30
02/01/2019	03/31/2020	805095	LEXINGTON MUTH	805095	LEXINGTON MUTH	79,547	65,846	250	10/1 - 3/31
02/01/2019	03/31/2020	805095	LEXINGTON MUTH	805095	LEXINGTON MUTH	39,774	32,923	250	4/1 - 9/30

1/ Application of MDDOs, DDQs and ADQs, minimum pressure and/or hourly flowrate shall be as follows:

At Measuring Point No. 829541 during the months of November through March of each year - The Minimum Delivery Pressure Obligation is 750 psig whenever the forecasted low temperature used by Transporter's Gas Control for the Lexington, KY area is 20 degrees F or lower. Regardless of the forecasted temperature, if the actual temperature in the Lexington, KY area should fall below 20 degrees F, Transporter will provide, to the extent operationally feasible, a Minimum Delivery Pressure Obligation of 750 psig. If forecasted low temperature for the Lexington, KY area is above 20 degrees F, the Minimum Delivery Pressure Obligation is 600 psig.

At Measuring Point No. 829541 during the months of April through October of each year - The Minimum Delivery Pressure Obligation is 500 psig.

Unless Measuring Point specific Maximum Daily Delivery Obligations (MDDO's) are specified in a separate firm service agreement between Transporter and Shipper, Transporter's aggregate MDDO, under this and any other service agreement between Transporter and Shipper, at the Measuring Points listed above shall not exceed the MDDO quantities set forth above for each Measuring Point. In addition, Transporter shall not be obligated on any day to deliver in total more than the Aggregate Daily Quantities (ADQ's) listed below for each specified Market Area. The Market Area in which each Measuring Point is located is posted on Transporter's EBB and incorporated herein by reference. Any Measuring Point specific MDDO's in a separate firm service agreement between Transporter and Shipper shall be additive both to the individual MDDO's and DDQ's set forth above and to any applicable ADQ's set forth below.

Market Area Number / Market Area Name / ADQ

10 - Cincinnati - 28,523

11 - Aberdeen - 8,133

12 - Lexington - 168,475

13 - Manchester - 3,613

ADQ for Market Areas 10-13 - 174,861

15 - Portsmouth - 15,665

16 - Lancer - 4,371

18 - Kentucky Miscellaneous - 4

ADQ for Market Areas 15, 16, and 18 - 16,019

The Master List of Interconnects ("MLI") as defined in Section 1 of the General Terms and Conditions of Transporter's FERC Gas Tariff is incorporated herein by reference for purposes of listing valid secondary interruptible receipt and delivery points.

Yes  No (Check applicable blank) Transporter and Shipper have mutually agreed to a Regulatory Restructuring Reduction Option pursuant to Section 42 of the General Terms and Conditions of Transporter's FERC Gas Tariff.

Yes  No (Check applicable blank) Shipper has a contractual right of first refusal equivalent to the right of first refusal set forth from time to time in Section 4 of the General Terms and Conditions of Transporter's FERC Gas Tariff.

Yes  No (Check applicable blank) The MDDOs, ADQs, and/or DDQs set forth in Appendix A to Shipper's \_\_\_\_\_ Service Agreement No. \_\_\_\_\_ are incorporated herein by reference.

Yes  No (Check applicable blank) This Service Agreement covers interim capacity sold pursuant to the provisions of General Terms and Conditions Section 4. Right of first refusal rights, if any, applicable to this interim capacity are limited as provided for in General Terms and Conditions Section 4.

Yes  No (Check applicable blank) This Service Agreement covers offsystem capacity sold pursuant to Section 47 of the General Terms and Conditions. Right of first refusal rights, if any, applicable to this offsystem capacity are limited as provided for in General Terms and Conditions Section 47.

COLUMBIA GAS OF KENTUCKY, INC.

By *[Signature]*  
Title V.P.  
Date 1-14-19

COLUMBIA GAS TRANSMISSION, LLC

By *[Signature]*  
Title Manassah Transportation Contracts  
Date 1-23-19

*Revised by Turn 1/19/2019*

Service Agreement No. 81540

Revision No. 1

### SST SERVICE AGREEMENT

THIS AGREEMENT is made and entered into this 1 day of Nov, 2013, by and between COLUMBIA GAS TRANSMISSION, LLC ("Transporter") and COLUMBIA GAS OF KENTUCKY, INC ("Shipper").

WITNESSETH: That in consideration of the mutual covenants herein contained, the parties hereto agree as follows:

Section 1. Service to be Rendered. Transporter shall perform and Shipper shall receive service in accordance with the provisions of the effective SST Rate Schedule and applicable General Terms and Conditions of Transporter's FERC Gas Tariff, Fourth Revised Volume No. 1 ("Tariff"), on file with the Federal Energy Regulatory Commission ("Commission"), as the same may be amended or superseded in accordance with the rules and regulations of the Commission. The maximum obligation of Transporter to deliver gas hereunder to or for Shipper, the designation of the points of delivery at which Transporter shall deliver or cause gas to be delivered to or for Shipper, and the points of receipt at which Shipper shall deliver or cause gas to be delivered, are specified in Appendix A, as the same may be amended from time to time by agreement between Shipper and Transporter, or in accordance with the rules and regulations of the Commission.

Section 2. Term. Service under this Agreement shall commence as of November 1, 2013, and shall continue in full force and effect until March 31, 2020. Pre-granted abandonment shall apply upon termination of this Agreement, subject to any right of first refusal Shipper may have under the Commission's regulations and Transporter's Tariff.

Section 3. Rates. Shipper shall pay Transporter the charges and furnish Retainage as described in the above-referenced Rate Schedule, unless otherwise agreed to by the parties in writing and specified as an amendment to this Service Agreement. Transporter may agree to discount its rate to Shipper below Transporter's maximum rate, but not less than Transporter's minimum rate. Such discounted rate may apply to: (a) specified quantities (contract demand or commodity quantities); (b) specified quantities above or below a certain level or all quantities if quantities exceed a certain level; (c) quantities during specified time periods; (d) quantities at specified points, locations, or other defined geographical areas; (e) that a specified discounted rate will apply in a specified relationship to the quantities actually transported (i.e., that the reservation charge will be adjusted in a specified relationship to quantities actually transported); (f) production and/or reserves committed by the Shipper; and (g) based on a formula including, but not limited to, published index prices for specific receipt and/or delivery points or other agreed-upon pricing points, provided that the resulting rate shall be no lower than the minimum nor higher than the maximum applicable rate set forth in the Tariff. In addition, the discount agreement may include a provision that if one rate component which was at or below the applicable maximum rate at the time the discount agreement was executed subsequently exceeds the applicable maximum rate due to a change in Transporter's maximum rate so that such rate component must be adjusted downward to equal the new applicable maximum rate, then other rate components may be adjusted upward to achieve the agreed overall rate, so long as none of the resulting rate components exceed the maximum rate applicable to that rate component. Such changes to rate components shall be applied prospectively, commencing with the date a Commission order accepts revised tariff sections. However, nothing contained herein shall be construed to alter a refund obligation under applicable law for any period during which rates, which had been charged under a discount agreement, exceeded rates which ultimately are found to be just and reasonable.

Section 4. Notices. Notices to Transporter under this Agreement shall be addressed to it at 5151 San Felipe, Suite 2500, Houston, Texas 77056, Attention: Customer Services and notices to Shipper shall be addressed to it at Columbia Gas Of Kentucky, Inc, 200 Civic Center Drive, P. O. Box 117, Columbus, OH 43216 0117, Attention: Kent Koch, until changed by either party by written notice.

Section 5. Superseded Agreements. This Service Agreement supersedes and cancels, as of the effective date hereof, the following Service Agreement(s): SST No. 81540, Revision No. 0.

COLUMBIA GAS OF KENTUCKY, INC

By Walter Baum  
Title VP  
Date 11/6/13

COLUMBIA GAS TRANSMISSION, LLC

By Michelle S. Mae  
Title VP Cust Svcs & Bus Integrate  
Date 11/1/13

Revised by MA 10/31/2013

Revision No. 1

Appendix A to Service Agreement No. 81540  
Under Rate Schedule SST  
between Columbia Gas Transmission, LLC ("Transporter")  
and Columbia Gas Of Kentucky, Inc ("Shipper")

<u>Begin Date</u>	<u>End Date</u>	<u>Transportation Demand Dth/day</u>	<u>Recurrence Interval</u>
November 1, 2013	March 31, 2020	30,000	10/1 - 3/31
November 1, 2013	March 31, 2020	15,000	4/1 - 9/30

Primary Receipt Points

<u>Begin Date</u>	<u>End Date</u>	<u>Scheduling Point No.</u>	<u>Scheduling Point Name</u>	<u>Maximum Daily Quantity (Dth/day)</u>	<u>Recurrence Interval</u>
November 1, 2013	March 31, 2020	STOR	RP Storage Point TCO	30,000	10/1 - 3/31
November 1, 2013	March 31, 2020	STOR	RP Storage Point TCO	15,000	4/1 - 9/30

Primary Delivery Points

<u>Begin Date</u>	<u>End Date</u>	<u>Scheduling Point No.</u>	<u>Scheduling Point Name</u>	<u>Measuring Point No.</u>	<u>Measuring Point Name</u>	<u>Maximum Daily Delivery Obligation (Dth/day) 1/</u>	<u>Design Daily Quantity (Dth/day) 1/</u>	<u>Minimum Delivery Pressure Obligation (psig) 1/</u>	<u>Recurrence Interval</u>
November 1, 2013	March 31, 2020	18-10	COL GAS OF KY 06-10	829541	LAKE CARNICO	30,000			10/1 - 3/31
November 1, 2013	March 31, 2020	18-10	COL GAS OF KY 06-10	829541	LAKE CARNICO	15,000			4/1 - 9/30

1/ Application of MDDOs, DDQs and ADQs, minimum pressure and/or hourly flowrate shall be as follows:

The Master List of Interconnects ("MLI") as defined in Section 1 of the General Terms and Conditions of Transporter's FERC Gas Tariff is incorporated herein by reference for purposes of listing valid secondary interruptible receipt and delivery points.

Yes  No (Check applicable blank) Transporter and Shipper have mutually agreed to a Regulatory Restructuring Reduction Option pursuant to Section 42 of the General Terms and Conditions of Transporter's FERC Gas Tariff.

Yes  No (Check applicable blank) Shipper has a contractual right of first refusal equivalent to the right of first refusal set forth from time to time in Section 4 of the General Terms and Conditions of Transporter's FERC Gas Tariff.

Yes  No (Check applicable blank) The MDDOs, ADQs, and/or DDQs set forth in Appendix A to Shipper's \_\_\_\_\_ Service Agreement No. \_\_\_\_\_ are incorporated herein by reference.

Yes  No (Check applicable blank) This Service Agreement covers interim capacity sold pursuant to the provisions of General Terms and Conditions Section 4. Right of first refusal rights, if any, applicable to this interim capacity are limited as provided for in General Terms and Conditions Section 4.

Yes  No (Check applicable blank) This Service Agreement covers offsystem capacity sold pursuant to Section 47 of the General Terms and Conditions. Right of first refusal rights, if any, applicable to this offsystem capacity are limited as provided for in General Terms and Conditions Section 47.

COLUMBIA GAS OF KENTUCKY, INC

By

Heather Baum

Title

VP

Date

11/1/13

*Reviewed by PM 10/31/2013*

COLUMBIA GAS TRANSMISSION, LLC

By

Michelle S. Mear

Title

VP Customer Serv & Bus Integration

Date

11-1-13



5151 San Felipe Suite 2500  
Houston, TX 77056  
Phone: 713-386-3441  
Fax: 713-386-3420

October 25, 2013

Ms. Lynn Burke  
Columbia Gas of Kentucky, Inc.  
200 Civic Center Drive  
Columbus, OH 43216-0117

**Re: Discount Letter Amendment to FTS Service Agreement 81540**

Dear Ms. Burke,

This letter shall serve as an amendment to the SST Service Agreement between Columbia Gas of Kentucky, Inc. (Shipper) and Columbia Gas Transmission, LLC (Transporter) designated as Transporter's Contract Number 81540 Revision 1.

1. Transporter and Shipper hereby agree that Section 3 of the above referenced Agreement shall be amended to provide for a discounted rate under the terms and conditions set forth below.
  - a) **Applicable Period:** November 1, 2013 through March 31, 2020
  - b) **Reservation Charge:** Discounted to provide a \$4.185 Demand Rate

Notwithstanding the foregoing, the charge to paid by Shipper to Transporter shall be no lower than the applicable total effective minimum charges set forth in the Transporter's Federal Energy Regulatory Commission (FERC) Gas Tariff. Shipper shall be assessed and pay all applicable maximum Commodity and Overrun Charges and all applicable Surcharges and shall be subject to retainage.

2. The provisions of this Agreement shall be deemed confidential and may not be disclosed by the parties, their agents or assigns, except upon written consent of the other party unless disclosure is required by law.

If you are in agreement with the above amendment, please execute an original of this letter and return it to Transporter at [kcrawford@nisorce.com](mailto:kcrawford@nisorce.com).

Executed and agreed to this 1st day of November, 2013.

**COLUMBIA GAS TRANSMISSION, LLC**

**COLUMBIA GAS OF KENTUCKY, INC.**

By: Michelle J. Sma

By: W. Kathryn Bauer

Its: VP Customer Svcs & Business  
10-28-12 Integratio

Its: VP 11/1/13

*Revised by TML 10/31/2013*

SERVICE AGREEMENT NO.  
CONTROL NO.

81527  
2004-05-25-0017

**FTS SERVICE AGREEMENT**

THIS AGREEMENT, made and entered into this 28<sup>th</sup> day of December, 2004, by and between:

Columbia Gas Transmission Corporation  
("Transporter")  
AND  
Columbia Gas Of Kentucky, Inc  
("Shipper")

WITNESSETH: That in consideration of the mutual covenants herein contained, the parties hereto agree as follows:

**Section 1. Service to be Rendered.** Transporter shall perform and Shipper shall receive service in accordance with the provisions of the effective FTS Rate Schedule and applicable General Terms and Conditions of Transporter's FERC Gas Tariff, Second Revised Volume No. 1 (Tariff), on file with the Federal Energy Regulatory Commission (Commission), as the same may be amended or superseded in accordance with the rules and regulations of the Commission. The maximum obligation of Transporter to deliver gas hereunder to or for Shipper, the designation of the points of delivery at which Transporter shall deliver or cause gas to be delivered to or for Shipper, and the points of receipt at which Shipper shall deliver or cause gas to be delivered, are specified in Appendix A, as the same may be amended from time to time by agreement between Shipper and Transporter, or in accordance with the rules and regulations of the Commission. Service hereunder shall be provided subject to the provisions of Part 284. 223 of Subpart G of the Commission's regulations. Shipper warrants that service hereunder is being provided on behalf of Shipper.

**Section 2. Term.** Service under this Agreement shall commence as of April 1, 2005, and shall continue in full force and effect until March 31, 2020. Pre-granted abandonment shall apply upon termination of this Agreement, subject to any right of first refusal Shipper may have under the Commission's regulations and Transporter's Tariff.

**Section 3. Rates.** Shipper shall pay Transporter the charges and furnish Retainage as described in the above-referenced Rate Schedule, unless otherwise agreed to by the parties in writing and specified as an amendment to this Service Agreement. Transporter may agree to discount its rate to Shipper below Transporter's maximum rate, but not less than Transporter's minimum rate. Such discounted rate may apply to: a) specified quantities (contract demand or commodity quantities); b) specified quantities above or below a certain level or all quantities if quantities exceed a certain level; c) quantities during specified time periods; d) quantities at specified points, locations, or other defined geographical areas; and e) that a specified discounted rate will apply in a specified relationship to the quantities actually transported (i.e., that the reservation charge will be adjusted in a specified relationship to quantities actually transported). In addition, the discount agreement may include a provision that if one rate component which was at or below the applicable maximum rate at the time the discount agreement was executed subsequently exceeds the applicable maximum rate due to a change in Transporter's maximum rate so that such rate component must be adjusted downward to equal the new applicable maximum rate, then other rate components may be adjusted upward to achieve the agreed overall rate, so long as none of the resulting rate components exceed the maximum rate applicable to that rate component. Such changes to rate components shall be applied prospectively, commencing with the date a Commission order accepts revised tariff sheets. However, nothing contained herein shall be construed to alter a refund obligation under applicable law for any period during which rates had been charged under a discount agreement exceeded rates which ultimately are found to be just and reasonable.

**SERVICE AGREEMENT NO.** 81527  
**CONTROL NO.** 2004-05-25-0017

**FTS SERVICE AGREEMENT**

Section 4. Notices. Notices to Transporter under this Agreement shall be addressed to it at Post Office Box 1273, Charleston, West Virginia 25325-1273, Attention: Manager – Customer Services and notices to Shipper shall be addressed to it at:

Columbia Gas Of Kentucky, Inc  
200 Civic Center Drive  
P. O. Box 117  
Columbus, OH 43216-0117  
ATTN: Scott Phelps

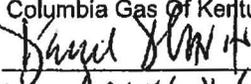
until changed by either party by written notice.

SERVICE AGREEMENT NO. 81527  
CONTROL NO. 2004-05-25-0017

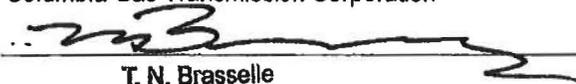
FTS SERVICE AGREEMENT

Section 5. Superseded Agreements. This Service Agreement supersedes and cancels, as of the effective date hereof, the following Service Agreements: FTS 38238.

Columbia Gas of Kentucky, Inc

By:   
Name: Daniel Y Gravito  
Title: VP - CSS  
Date: 12-17-04

Columbia Gas Transmission Corporation

By:   
Name: T. N. Brasselle  
Title: MGR Customer Services  
Date: DEC 29 2004

Revision No.  
Control No. 2004-05-25-0017

Appendix A to Service Agreement No. 81527  
Under Rate Schedule FTS  
Between (Transporter) Columbia Gas Transmission Corporation  
and (Shipper) Columbia Gas Of Kentucky, Inc

Transportation Demand 20,014 Dth/Day

Primary Receipt Points

Scheduling Point No.	Scheduling Point Name	Measuring Point No.	Measuring Point Name	Maximum Daily Quantity (Dth/Day)	Minimum Receipt Pressure Obligation (psig) 1/	Hourly Flowrate (Dth/hour) 1/
B9	BROAD RUN-19	B9		20,014		

Revision No.  
Control No. 2004-05-25-0017

Appendix A to Service Agreement No. 81527  
 Under Rate Schedule FTS  
 Between (Transporter) Columbia Gas Transmission Corporation  
 and (Shipper) Columbia Gas Of Kentucky, Inc

Primary Delivery Points

Scheduling Point No.	Scheduling Point Name	Measuring Point No.	Measuring Point Name	Maximum Daily Delivery Obligation (Dth/day) <sup>1/</sup>	Design Daily Quantity (Dth/Day) <sup>1/</sup>	Aggregate <sup>1/</sup> Daily Quantity	Minimum Delivery Pressure Obligation (psig) <sup>1/</sup>	Hourly Flowrate (Dth/hour) <sup>1/</sup>
17-15	COL GAS OF KY 03-15	801584	ASHLAND OIL REF.	1,771				
17-15	COL GAS OF KY 03-15	803264	FULLERTON DP	1,312				
17-15	COL GAS OF KY 03-15	803423	FLATWOODS	405				
17-15	COL GAS OF KY 03-15	803759	DUPONT	0				
17-15	COL GAS OF KY 03-15	803773	CKY ASHLAND 8TH STREET	6,890				
17-15	COL GAS OF KY 03-15	803848	MARKWEST HYDROCARBON	73				
17-15	COL GAS OF KY 03-15	804313	WURLAND D.P. (EM)	4,017				
17-15	COL GAS OF KY 03-15	804319	WESTWOOD	2,385				
17-15	COL GAS OF KY 03-15	804324	ASH.-BUCKLY RD.	380				
17-15	COL GAS OF KY 03-15	804329	GREENUP-UPPER RIGGS	45				
17-15	COL GAS OF KY 03-15	804345	GREENUP-LOWER RIGGS	292				
17-15	COL GAS OF KY 03-15	804373	GREENUP-UPPER RIGGS	105				
17-15	COL GAS OF KY 03-15	804374	GREENUP-CENTER RIGGS	91				
17-15	COL GAS OF KY 03-15	804375	FLATWOODS	196				
17-15	COL GAS OF KY 03-15	804379	RACELAND-POPLA R HGTS.	58				
17-15	COL GAS OF KY 03-15	804423	GREENUP CENTER	152				
17-15	COL GAS OF KY	804711	ASH-FRIENDSHIP	598				

Revision No.  
Control No. 2004-05-25-0017

Appendix A to Service Agreement No. *81527*  
 Under Rate Schedule FTS  
 Between (Transporter) Columbia Gas Transmission Corporation  
 and (Shipper) Columbia Gas Of Kentucky, Inc

Primary Delivery Points

Scheduling Point No.	Scheduling Point Name	Measuring Point No.	Measuring Point Name	Maximum Daily Delivery Obligation (Dth/day) <sup>1/</sup>	Design Daily Quantity (Dth/Day) <sup>1/</sup>	Aggregate Daily Quantity <sup>1/</sup>	Minimum Delivery Pressure Obligation (psig) <sup>1/</sup>	Hourly Flowrate (Dth/hour) <sup>1/</sup>
17-15	03-15 COL GAS OF KY	805174	RD. CANNONSBURG	277				
17-15	03-15 COL GAS OF KY	805609	SUMMIT CITY	496				
17-15	03-15 COL GAS OF KY	805633	BELHAVEN	313				
17-15	03-15 COL GAS OF KY	805676	HILLCREST APTS.	85				
17-15	03-15 COL GAS OF KY	805815	BRUCE APTS.	50				
17-15	03-15 COL GAS OF KY	814791	AMETEK CORP.	23				

Revision No.  
Control No. 2004-05-25-0017

Appendix A to Service Agreement No. 81527  
Under Rate Schedule FTS  
Between (Transporter) Columbia Gas Transmission Corporation  
and (Shipper) Columbia Gas Of Kentucky, Inc

1/ Application of MDDOs, DDQs, and ADQs and/or minimum pressure and/or hourly flowrate shall be as follows:

Revision No.  
Control No. 2004-05-25-0017

Appendix A to Service Agreement No. **81527**  
Under Rate Schedule **FTS**  
Between (Transporter) **Columbia Gas Transmission Corporation**  
and (Shipper) **Columbia Gas Of Kentucky, Inc**

The Master list of Interconnects (MLI) as defined in Section 1 of the General Terms and Conditions of Transporter's Tariff is incorporated herein by reference for the purposes of listing valid secondary interruptible receipt points and delivery points.

Yes  No (Check applicable blank) Transporter and Shipper have mutually agreed to a Regulatory Restructuring Reduction Option pursuant to Section 42 of the General Terms and Conditions of Transporter's FERC Gas Tariff.

Yes  No (Check applicable blank) Shipper has a contractual right of first refusal equivalent to the right of first refusal set forth from time to time in Section 4 of the General Terms and Conditions of Transporter's FERC Gas Tariff.

Service pursuant to this Appendix A, Revision No. 0 shall be effective April 1, 2005 through March 31, 2020.

Yes  No (Check applicable blank) This Appendix A, Revision No. 0 shall cancel and supersede the Previous Appendix A, Revision No. \_\_\_ effective as of \_\_\_\_\_, 20\_\_\_, to the Service Agreement referenced above.

Yes  No (Check applicable blank) All Gas shall be delivered at existing points of interconnection within the MDDO's, and/or ADQ's, and/or DDQ's, as applicable, set forth in Transporter's currently effective Rate Schedule \_\_\_ Appendix A, Revision No. 0 with Shipper, which for such points set forth are incorporated herein by reference.

With the exception of this Appendix A, Revision No. 0 all other terms and conditions of said Service Agreement shall remain in full force and effect.

Columbia Gas Of Kentucky, Inc

By: *[Signature]*  
Name: SAMUEL S GAVIN  
Title: VP ESS  
Date: 12-17-04

Columbia Gas Transmission Corporation

By: *[Signature]*  
Name: T. N. Brasselle  
Title: MGR Customer Services  
Date: DEC 29 2004

Service Agreement No. 191914

Revision No. 0

## FTS SERVICE AGREEMENT

THIS AGREEMENT is made and entered into this 18<sup>th</sup> day of July, 2017, by and between COLUMBIA GAS TRANSMISSION, LLC ("Transporter") and COLUMBIA GAS OF KENTUCKY, INC. ("Shipper").

WITNESSETH: That in consideration of the mutual covenants herein contained, the parties hereto agree as follows:

Section 1. Service to be Rendered. Transporter shall perform and Shipper shall receive service in accordance with the provisions of the effective FTS Rate Schedule and applicable General Terms and Conditions of Transporter's FERC Gas Tariff, Fourth Revised Volume No. 1 ("Tariff"), on file with the Federal Energy Regulatory Commission ("Commission"), as the same may be amended or superseded in accordance with the rules and regulations of the Commission. The maximum obligation of Transporter to deliver gas hereunder to or for Shipper, the designation of the points of delivery at which Transporter shall deliver or cause gas to be delivered to or for Shipper, and the points of receipt at which Shipper shall deliver or cause gas to be delivered, are specified in Appendix A, as the same may be amended from time to time by agreement between Shipper and Transporter, or in accordance with the rules and regulations of the Commission.

Section 2. Term. Service under this Agreement shall commence as of November 1, 2019, and shall continue in full force and effect until October 31, 2024. Pre-granted abandonment shall apply upon termination of this Agreement, subject to any right of first refusal Shipper may have under the Commission's regulations and Transporter's Tariff.

Section 3. Rates. Shipper shall pay Transporter the charges and furnish Retainage as described in the above-referenced Rate Schedule, unless otherwise agreed to by the parties in writing and specified as an amendment to this Service Agreement. Transporter may agree to discount its rate to Shipper below Transporter's maximum rate, but not less than Transporter's minimum rate. Such discounted rate may apply to: (a) specified quantities (contract demand or commodity quantities); (b) specified quantities above or below a certain level or all quantities if quantities exceed a certain level; (c) quantities during specified time periods; (d) quantities at specified points, locations, or other defined geographical areas; (e) that a specified discounted rate will apply in a specified relationship to the quantities actually transported (i.e., that the reservation charge will be adjusted in a specified relationship to quantities actually transported); (f) production and/or reserves committed by the Shipper; and (g) based on a formula including, but not limited to, published index prices for specific receipt and/or delivery points or other agreed-upon pricing points, provided that the resulting rate shall be no lower than the minimum nor higher than the maximum applicable rate set forth in the Tariff. In addition, the discount agreement may include a provision that if one rate component which was at or below the applicable maximum rate at the time the discount agreement was executed subsequently exceeds the applicable maximum rate due to a change in Transporter's maximum rate so that such rate component must be adjusted downward to equal the new applicable maximum rate, then other rate components may be adjusted upward to achieve the agreed overall rate, so long as none of the resulting rate components exceed the maximum rate applicable to that rate component. Such changes to rate components shall be applied prospectively, commencing with the date a Commission order accepts revised tariff sections. However, nothing contained herein shall be construed to alter a refund obligation under applicable law for any period during which rates, which had been charged under a discount agreement, exceeded rates which ultimately are found to be just and reasonable.

Section 4. Notices. Notices to Transporter under this Agreement shall be addressed to it at 5151 San

Felipe, Suite 2500, Houston, Texas 77056, Attention: Customer Services and notices to Shipper shall be addressed to it at Columbia Gas of Kentucky, Inc., 290 W. Nationwide Blvd., Columbus, OH 43215, Attention: Dan Grieshop, until changed by either party by written notice.

Section 5. Superseded Agreements. This Service Agreement supersedes and cancels, as of the effective date hereof, the following Service Agreement(s): N/A.

COLUMBIA GAS OF KENTUCKY, INC.

By   
Title V.P.  
Date 7-17-17

COLUMBIA GAS TRANSMISSION, LLC

By   
Title Director  
Date 7/12/2017

Revised by TMA 7/17/2017

Appendix A to Service Agreement No. 191914  
 Under Rate Schedule FTS  
 between Columbia Gas Transmission, LLC ("Transporter")  
 and Columbia Gas of Kentucky, Inc. ("Shipper").

Transportation Demand

<u>Begin Date</u>	<u>End Date</u>	<u>Transportation Demand Dth/day</u>	<u>Recurrence Interval</u>
11/01/2019	10/31/2024	5,124	1/1 - 12/31

Primary Receipt Points

<u>Begin Date</u>	<u>End Date</u>	<u>Scheduling Point No.</u>	<u>Scheduling Point Name</u>	<u>Measuring Point No.</u>	<u>Measuring Point Name</u>	<u>Maximum Daily Quantity (Dth/day)</u>	<u>Minimum Receipt Pressure Obligation (psig) 1/</u>	<u>Recurrence Interval</u>
11/01/2019	10/31/2024	801	TCO-LEACH	801	TCO-LEACH	5,124		1/1 - 12/31

Primary Delivery Points

<u>Begin Date</u>	<u>End Date</u>	<u>Scheduling Point No.</u>	<u>Scheduling Point Name</u>	<u>Measuring Point No.</u>	<u>Measuring Point Name</u>	<u>Maximum Daily Delivery Obligation (Dth/day) 1/</u>	<u>Design Daily Quantity (Dth/day) 1/</u>	<u>Minimum Delivery Pressure Obligation (psig) 1/</u>	<u>Recurrence Interval</u>
11/01/2019	10/31/2024	17-15	COL GAS OF KY 03-15	804193	CALGON		521		1/1 - 12/31
11/01/2019	10/31/2024	22	COL GAS OH OP-03	713539	NEW BOSTON		4,603		1/1 - 12/31

1/

Application of MDDOs, DDQs and ADQs, minimum pressure and/or hourly flowrate shall be as follows:

The Master List of Interconnects ("MLI") as defined in Section 1 of the General Terms and Conditions of Transporter's Tariff is incorporated herein by reference for purposes of listing valid secondary interruptible receipt points and delivery points.

       Yes   X   No (Check applicable blank) Transporter and Shipper have mutually agreed to a Regulatory Restructuring Reduction Option pursuant to Section 42 of the General Terms and Conditions of Transporter's FERC Gas Tariff.

       Yes   X   No (Check applicable blank) Shipper has a contractual right of first refusal equivalent to the right of first refusal set forth from time to time in Section 4 of the General Terms and Conditions of Transporter's FERC Gas Tariff.

       Yes   X   No (Check applicable blank) All gas shall be delivered at existing points of interconnection within the MDDOs, ADQs and/or DDQs, as applicable, set forth in Transporter's currently effective Rate Schedule        Service Agreement No.        Appendix A with Shipper, which are incorporated herein by reference.

       Yes   X   No (Check applicable blank) This Service Agreement covers interim capacity sold pursuant to the provisions of General Terms and Conditions Section 4. Right of first refusal rights, if any, applicable to this interim capacity are limited as provided for in General Terms and Conditions Section 4.

       Yes   X   No (Check applicable blank) This Service Agreement covers offsystem capacity sold pursuant to Section 47 of the General Terms and Conditions. Right of first refusal rights, if any, applicable to this offsystem capacity are limited as provided for in General Terms and Conditions Section 47.

COLUMBIA GAS OF KENTUCKY, INC.

By

*[Signature]*

Title

C.P.

Date

7-17-17

COLUMBIA GAS TRANSMISSION, LLC

By

*[Signature]*

Title

Director

Date

7/12/2017

*Reviewed by DMK 7/17/2017*

SERVICE AGREEMENT NO. 80171  
CONTROL NO. 2004-05-25-0014

FSS SERVICE AGREEMENT

THIS AGREEMENT, made and entered into this 11<sup>th</sup> day of October, 2004, by and between:

Columbia Gas Transmission Corporation  
("Transporter")  
AND  
Columbia Gas Of Kentucky, Inc  
("Shipper")

WITNESSETH: That in consideration of the mutual covenants herein contained, the parties hereto agree as follows:

**Section 1. Service to be Rendered.** Transporter shall perform and Shipper shall receive service in accordance with the provisions of the effective FSS Rate Schedule and applicable General Terms and Conditions of Transporter's FERC Gas Tariff, Second Revised Volume No. 1 (Tariff), on file with the Federal Energy Regulatory Commission (Commission), as the same may be amended or superseded in accordance with the rules and regulations of the Commission. Transporter shall store quantities of gas for Shipper up to but not exceeding Shipper's Storage Contract Quantity as specified in Appendix A, as the same may be amended from time to time by agreement between Shipper and Transporter, or in accordance with the rules and regulations of the Commission. Service hereunder shall be provided subject to the provisions of Part 284. 223 of Subpart G of the Commission's regulations. Shipper warrants that service hereunder is being provided on behalf of Shipper.

**Section 2. Term.** Service under this Agreement shall commence as of November 1, 2004, and shall continue in full force and effect until March 31, 2020. Pre-granted abandonment shall apply upon termination of this Agreement, subject to any right of first refusal Shipper may have under the Commission's regulations and Transporter's Tariff.

**Section 3. Rates.** Shipper shall pay Transporter the charges and furnish the Retainage as described in the above-referenced Rate Schedule, unless otherwise agreed to by the parties in writing and specified as an amendment to this Service Agreement. Transporter may agree to discount its rate to Shipper below Transporter's maximum rate, but not less than Transporter's minimum rate. Such discounted rate may apply to: a) specified quantities (contract demand or commodity quantities); b) specified quantities above or below a certain level or all quantities if quantities exceed a certain level; c) quantities during specified time periods; d) quantities at specified points, locations, or other defined geographical areas; and e) that a specified discounted rate will apply in a specified relationship to the quantities actually transported (i.e., that the reservation charge will be adjusted in a specified relationship to quantities actually transported). In addition, the discount agreement may include a provision that if one rate component which was at or below the applicable maximum rate at the time the discount agreement was executed subsequently exceeds the applicable maximum rate due to a change in Transporter's maximum rate so that such rate component must be adjusted downward to equal the new applicable maximum rate, then other rate components may be adjusted upward to achieve the agreed overall rate, so long as none of the resulting rate components exceed the maximum rate applicable to that rate component. Such changes to rate components shall be applied prospectively, commencing with the date a Commission order accepts revised tariff sheets. However, nothing contained herein shall be construed to alter a refund obligation under applicable law for any period during which rates which had been charged under a discount agreement exceeded rates which ultimately are found to be just and reasonable.

SERVICE AGREEMENT NO. 80171  
CONTROL NO. 2004-05-25-0014

**FSS SERVICE AGREEMENT**

**Section 4. Notices.** Notices to Transporter under this Agreement shall be addressed to it at Post Office Box 1273, Charleston, West Virginia 25325-1273, Attention: Manager – Customer Services and notices to Shipper shall be addressed to it at:

Columbia Gas Of Kentucky, Inc  
200 Civic Center Drive  
P. O. Box 117  
Columbus, OH 43216-0117  
ATTN: Scott Phelps

until changed by either party by written notice.

SERVICE AGREEMENT NO. 80171  
CONTROL NO. 2004-05-25-0014

FSS SERVICE AGREEMENT

Section 5. Superseded Agreements. This Service Agreement supersedes and cancels, as of the effective date hereof, the following Service Agreements: FSS 52985.

Columbia Gas Of Kentucky, Inc

By: [Signature] AB/SMP  
Name: Daniel D. Gaulto  
Title: Vice President, Energy Supply Services  
Date: 10/5/04

Columbia Gas Transmission Corporation

By: [Signature]  
Name: Michael D. Ward  
Title: VP Procurement & Volume Management  
Date: 10-7-04

Revision No.  
Control No. 2004-05-25-0014

Appendix A to Service Agreement No. 80171  
Under Rate Schedule FSS  
Between (Transporter) Columbia Gas Transmission Corporation  
and (Shipper) Columbia Gas Of Kentucky, Inc

Storage Contract Quantity 9,557,942 Dth  
Maximum Daily Storage Quantity 190,880 Dth per day

CANCELLATION OF PREVIOUS APPENDIX A

   Yes    X    No (Check applicable blank) Transporter and Shipper have mutually agreed to a Regulatory Restructuring Reduction Option pursuant to Section 42 of the General Terms and Conditions of Transporter's FERC Gas Tariff.

   Yes    X    No (Check applicable blank) Shipper has a contractual right of first refusal equivalent to the right of first refusal set forth from time to time in Section 4 of the General Terms and Conditions of Transporter's FERC Gas Tariff.

Service pursuant to this Appendix A, Revision No. shall be effective from November 1, 2004 through March 31, 2020.

   Yes    X    No (Check applicable blank) This Appendix A, Revision No. 0 shall cancel and supersede the Previous Appendix A, Revision No. N/A effective as of N/A, to the Service Agreement referenced above.

With the exception of this Appendix A, Revision No. 0 all other terms and conditions of said Service Agreement shall remain in full force and effect.

Columbia Gas Of Kentucky, Inc  
By: *Daniel D. Gavito* AB/BAH  
Name: Daniel D. Gavito  
Title: V.P. Energy Supply Services  
Date: 10-5-04

Columbia Gas Transmission Corporation  
By: *Michael D. Watson*  
Name: Michael D. Watson  
Title: OP Pricing & Volume Management  
Date: 10-7-04

Appendix A to Service Agreement No. 80171  
 Under Rate Schedule FSS  
 Between Columbia Gas Transmission Corporation (Transporter)  
 And Columbia Gas of Kentucky, Inc. (Shipper)

Storage Contract Quantity

<u>Begin Date</u>	<u>End Date</u>	<u>Storage Contract Quantity (Dth)</u>	<u>Maximum Daily Storage Quantity Dth/Day</u>
11/01/2008	03/31/2020	11,264,911	220,880

CANCELLATION OF PREVIOUS APPENDIX A

Yes  No (Check applicable blank) Transporter and Shipper have mutually agreed to a Regulatory Restructuring Reduction Option pursuant to Section 42 of the General Terms and Conditions of Transporter's FERC Gas Tariff.

Yes  No (Check applicable blank) Shipper has a contractual right of first refusal equivalent to the right of first refusal set forth from time to time in Section 4 of the General Terms and Conditions of Transporter's FERC Gas Tariff.

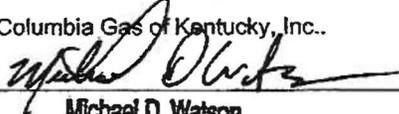
Service pursuant to this Appendix A, Revision No. 1 shall be effective from November 1, 2008 through March 31, 2020.

Yes  No (Check applicable blank) This Appendix A, Revision No. 1 shall cancel and supersede the previous Appendix A, Revision No. 0 effective as of November 1, 2008, to the Service Agreement referenced above.

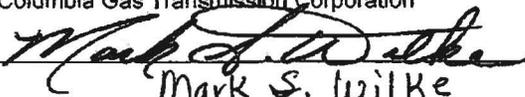
Yes  No (Check applicable blank) This Service Agreement covers interim capacity sold pursuant to the provisions of General Terms and Conditions Section 4.2(j). Right of first refusal rights, if any, applicable to this interim capacity are limited as provided for in General Terms and Conditions Section 4.2(j).

With the exception of this Appendix A, Revision No. 1 all other terms and conditions of said Service Agreement shall remain in full force and effect.

Columbia Gas of Kentucky, Inc..

By:   
 Name: Michael D. Watson  
 Title: Vice President  
 Date: 10-30-08

APPROVED AS TO FORM JMR 10/30/08  
 Columbia Gas Transmission Corporation

By:   
 Name: Mark S. Wilke  
 Title: Director  
 Date: 11/17/08

**GAS TRANSPORTATION AGREEMENT**  
(For Use Under FT-A Rate Schedule)

THIS AGREEMENT is made and entered into as of the 1 day of November, 2019, by and between TENNESSEE GAS PIPELINE COMPANY, L.L.C., a Delaware limited liability company, hereinafter referred to as "Transporter" and COLUMBIA GAS OF KENTUCKY INC., a KENTUCKY CORPORATION, hereinafter referred to as "Shipper." Transporter and Shipper shall collectively be referred to herein as the "Parties."

NOW THEREFORE, Transporter and Shipper agree as follows:

**ARTICLE I**

**DEFINITIONS**

- 1.1 **TRANSPORTATION QUANTITY** - shall mean the maximum daily quantity of gas which Transporter agrees to receive and transport on a firm basis, subject to Article II herein, for the account of Shipper hereunder on each day during the term hereof, as specified on Exhibit "A" attached hereto. Any limitations on the quantities to be received from each Point of Receipt and/or delivered to each Point of Delivery shall be as specified on Exhibit "A" attached hereto.
- 1.2 **EQUIVALENT QUANTITY** - shall be as defined in Article I of the General Terms and Conditions of Transporter's FERC Gas Tariff.
- 1.3 **COMMENCEMENT DATE** – shall mean November 1, 2019.

**ARTICLE II**

**TRANSPORTATION**

Commencing upon the Commencement Date, Transporter agrees to accept and receive daily on a firm basis, in accordance with Rate Schedule FT-A, at the Point(s) of Receipt from Shipper or for Shipper's account such quantity of gas as Shipper makes available up to the Transportation Quantity, and to deliver to or for the account of Shipper to the Point(s) of Delivery an Equivalent Quantity of gas.

**ARTICLE III**

**POINT(S) OF RECEIPT AND DELIVERY**

The Primary Point(s) of Receipt and Delivery shall be those points specified on Exhibit "A" attached hereto.

**ARTICLE IV**

**FACILITIES**

All facilities are in place to render the service provided for in this Agreement and Transporter shall have no obligation to build facilities to perform this service.

**ARTICLE V**

GAS TRANSPORTATION AGREEMENT (continued)  
(For Use Under FT-A Rate Schedule)

QUALITY SPECIFICATIONS AND STANDARDS FOR MEASUREMENT

For all gas received, transported and delivered hereunder the Parties agree to the Quality Specifications and Standards for Measurement as specified in the General Terms and Conditions of Transporter's FERC Gas Tariff. To the extent that no new measurement facilities are installed to provide service hereunder, measurement operations will continue in the manner in which they have previously been handled. In the event that such facilities are not operated by Transporter or a downstream pipeline, then responsibility for operations shall be deemed to be Shipper's.

ARTICLE VI

RATES AND CHARGES

- 6.1 TRANSPORTATION RATES - Commencing upon the Commencement Date, the rates, charges, and surcharges to be paid by Shipper to Transporter for the transportation service provided herein shall be in accordance with Transporter's Rate Schedule FT-A and the General Terms and Conditions of Transporter's FERC Gas Tariff.

Except as provided to the contrary in any written or electronic agreement(s) between Transporter and Shipper in effect during the term of this Agreement, Shipper shall pay Transporter the applicable maximum rate(s) and all other applicable charges and surcharges specified in the Summary of Rates and Charges in Transporter's FERC Gas Tariff and in Rate Schedule FT-A. Transporter and Shipper may mutually agree from time to time to discounted rates or Negotiated Rates for service provided hereunder in accordance with the provisions of Rate Schedule FT-A and the General Terms and Conditions of Transporter's FERC Gas Tariff.

Transporter and Shipper may agree that a specific discounted rate will apply only to certain volumes under the agreement. Transporter and Shipper may agree that a specified discounted rate will apply only to specified volumes (MDQ, TQ, commodity volumes, Extended Receipt and Delivery Service Volumes or Authorized Overrun volumes) under the Agreement; that a specified discounted rate will apply only if specified volumes are achieved (with the maximum rates applicable to volumes above the specified volumes or to all volumes if the specified volumes are never achieved); that a specified discounted rate will apply only during specified periods of the year or over a specifically defined period of time; that a specified discounted rate will apply only to specified points, zones, markets or other defined geographical area; and/or that a specified discounted rate will apply only to production or reserves committed or dedicated to Transporter. Transporter and Shipper may agree to a specified discounted rate pursuant to the provisions of this Section 6.1 provided that the discounted rate is between the applicable maximum and minimum rates for this service.

In addition, a discount agreement may include a provision that if one rate component which was at or below the applicable Maximum Rate at the time the discount agreement was executed subsequently exceeds the applicable Maximum Rate due to a change in Transporter's Maximum Rates so that such rate component must be adjusted downward to equal the new applicable Maximum Rate, then other rate components may be adjusted upward to achieve the agreed overall rate, as long as none of the resulting rate components exceed the Maximum Rate applicable to that rate component. Such

GAS TRANSPORTATION AGREEMENT (continued)  
(For Use Under FT-A Rate Schedule)

changes to rate components shall be applied prospectively, commencing with the date a Commission Order accepts revised tariff sheet rates. However, nothing contained herein shall be construed to alter a refund obligation under applicable law for any period during which rates that had been charged under a discount agreement exceeded rates which ultimately are found to be just and reasonable.

- 6.2 INCIDENTAL CHARGES - Shipper agrees to reimburse Transporter for any filing or similar fees, which have not been previously paid for by Shipper, which Transporter incurs in rendering service hereunder.
- 6.3 CHANGES IN RATES AND CHARGES - Shipper agrees that Transporter shall have the unilateral right to file with the appropriate regulatory authority and make effective changes in (a) the rates and charges applicable to service pursuant to Transporter's Rate Schedule FT-A or any successor rate schedule, (b) the rate schedule(s) pursuant to which service hereunder is rendered, and/or (c) any provision of the General Terms and Conditions of Transporter's FERC Gas Tariff applicable to those rate schedules or this Agreement. Transporter agrees that Shipper may protest or contest the aforementioned filings, and may seek authorization from duly constituted regulatory authorities for such adjustment of Transporter's existing FERC Gas Tariff as may be found necessary to assure Transporter just and reasonable rates.
- 6.4 [Not applicable.]

ARTICLE VII

BILLINGS AND PAYMENTS

Transporter shall bill and Shipper shall pay all rates and charges in accordance with Articles VII and VIII, respectively, of the General Terms and Conditions of Transporter's FERC Gas Tariff.

ARTICLE VIII

RATE SCHEDULE AND GENERAL TERMS AND CONDITIONS

This Agreement shall be subject to the effective provisions of Transporter's Rate Schedule FT-A and to the General Terms and Conditions of Transporter's FERC Gas Tariff incorporated therein, as the same may be changed or superseded from time to time in accordance with the rules and regulations of the FERC.

ARTICLE IX

REGULATION

- 9.1 This Agreement shall be subject to all applicable and lawful governmental statutes, orders, rules and regulations and is contingent upon the receipt and continuation of all necessary regulatory approvals or authorizations upon terms acceptable to Transporter. This Agreement shall be void and of no force and effect if any necessary regulatory approval is

GAS TRANSPORTATION AGREEMENT (continued)  
(For Use Under FT-A Rate Schedule)

not so obtained or continued. All Parties hereto shall cooperate to obtain or continue all necessary approvals or authorizations, but no Party shall be liable to any other Party for failure to obtain or continue such approvals or authorizations.

- 9.2 The transportation service described herein shall be provided subject to Subpart G, Part 284 of the FERC Regulations.

ARTICLE X

RESPONSIBILITY DURING TRANSPORTATION

Except as herein specified, the responsibility for gas during transportation shall be as stated in the General Terms and Conditions of Transporter's FERC Gas Tariff.

ARTICLE XI

WARRANTIES

- 11.1 In addition to the warranties set forth in Article XI of the General Terms and Conditions of Transporter's FERC Gas Tariff, Shipper warrants the following:
- (a) Shipper warrants that all upstream and downstream transportation arrangements are in place, or will be in place by the Commencement Date, and that it has advised the upstream and downstream transporters of the receipt and delivery points under this Agreement and any quantity limitations for each point as specified on Exhibit "A" attached hereto. Shipper agrees to indemnify and hold Transporter harmless for refusal to transport gas hereunder in the event any upstream or downstream transporter fails to receive or deliver gas as contemplated by this Agreement.
  - (b) [Not applicable.]
  - (c) Shipper agrees to indemnify and hold Transporter harmless from all suits, actions, debts, accounts, damages, costs, losses and expenses (including reasonable attorneys fees) arising from or out of breach of any warranty by Shipper herein.
- 11.2 Transporter shall not be obligated to provide or continue service hereunder in the event of any breach of warranty.
- 11.3 [Not applicable.]

GAS TRANSPORTATION AGREEMENT (continued)  
(For Use Under FT-A Rate Schedule)

ARTICLE XII

TERM

- 12.1 This Agreement shall be effective as of the date hereof. Service hereunder shall commence on the Commencement Date, and shall continue in effect until October 31, 2024 ("Primary Term"), unless modified as per Exhibit "B". Any rights to Shipper's extension of this Agreement after the Primary Term shall be set forth in Exhibit "A" hereto; provided, however, if Exhibit "A" does not specify Shipper's extension rights under the Agreement, and if the Primary Term is one year or more, then any rights to Shipper's extension of this Agreement after the Primary Term shall be governed by Article V, Section 4 of the General Terms and Conditions of Transporter's FERC Gas Tariff; and provided further, that if the FERC or other governmental body having jurisdiction over the service rendered pursuant to this Agreement authorizes abandonment of such service, this Agreement shall terminate on the abandonment date permitted by the FERC or such other governmental body.
- 12.2 Any portions of this Agreement necessary to resolve or cash out imbalances under this Agreement as required by the General Terms and Conditions of Transporter's FERC Gas Tariff shall survive the other parts of this Agreement until such time as such balancing has been accomplished; provided, however, that Transporter notifies Shipper of such imbalance not later than twelve months after the termination of this Agreement.
- 12.3 This Agreement will terminate automatically upon written notice from Transporter in the event Shipper fails to pay all of the amount of any bill for service rendered by Transporter hereunder in accord with the terms and conditions of Article VIII of the General Terms and Conditions of Transporter's FERC Gas Tariff.

ARTICLE XIII

NOTICE

Except as otherwise provided in the General Terms and Conditions of Transporter's FERC Gas Tariff applicable to this Agreement, any notice under this Agreement shall be in writing and mailed to the address of the Party intended to receive the same, as follows:

TRANSPORTER: Tennessee Gas Pipeline Company, L.L.C.  
1001 Louisiana Street, Suite 1000  
Houston, Texas 77002

Attention: Director, Transportation Services

SHIPPER:

NOTICES: COLUMBIA GAS OF KENTUCKY INC.

GAS TRANSPORTATION AGREEMENT (continued)  
(For Use Under FT-A Rate Schedule)

290 W. NATIONWIDE BLVD.

COLUMBUS, OH 43215

Attention: MIKE ANDERSON

BILLING: COLUMBIA GAS OF KENTUCKY INC.

290 W. NATIONWIDE BLVD.

COLUMBUS, OH 43215

Attention: MANAGER GAS-PURCHASE

or to such other address as either Party shall designate by formal written notice to the other.

ARTICLE XIV

ASSIGNMENTS

- 14.1 Either Party may assign or pledge this Agreement and all rights and obligations hereunder under the provisions of any mortgage, deed of trust, indenture, or other instrument which it has executed or may execute hereafter as security for indebtedness. Either Party may, without relieving itself of its obligation under this Agreement, assign any of its rights hereunder to a company with which it is affiliated. Otherwise, Shipper shall not assign this Agreement or any of its rights hereunder, except in accord with Article VI, Section 1 of the General Terms and Conditions of Transporter's FERC Gas Tariff.
- 14.2 Any person which shall succeed by purchase, merger, or consolidation to the properties, substantially as an entirety, of either Party hereto shall be entitled to the rights and shall be subject to the obligations of its predecessor in interest under this Agreement.

ARTICLE XV

MISCELLANEOUS

- 15.1 THE INTERPRETATION AND PERFORMANCE OF THIS CONTRACT SHALL BE IN ACCORDANCE WITH AND CONTROLLED BY THE LAWS OF THE STATE OF TEXAS, WITHOUT REGARD TO THE DOCTRINES GOVERNING CHOICE OF LAW.
- 15.2 If any provision of this Agreement is declared null and void, or voidable, by a court of competent jurisdiction, then that provision will be considered severable at either Party's option; and if the severability option is exercised, the remaining provisions of the Agreement shall remain in full force and effect.
- 15.3 Unless otherwise expressly provided in this Agreement or Transporter's FERC Gas Tariff, no modification of or supplement to the terms and provisions stated in this Agreement shall be

GAS TRANSPORTATION AGREEMENT (continued)  
(For Use Under FT-A Rate Schedule)

or become effective until Shipper has submitted a request for change through Transporter's Interactive Website and Shipper has been notified through Transporter's Interactive Website of Transporter's agreement to such change.

- 15.4 Exhibit "A" and, when applicable, Exhibit "B" attached hereto are incorporated herein by reference and made a part hereof for all purposes.
- 15.6 [Not applicable.]
- 15.7 [Not applicable.]

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be duly executed as of the date first hereinabove written.

TENNESSEE GAS PIPELINE COMPANY, L.L.C.

ERNESTO A OCHOA  
BY: \_\_\_\_\_  
Agent and Attorney-in-Fact

COLUMBIA GAS OF KENTUCKY INC.

DANIEL J GRIESHOP  
BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

29 October 2019  
DATE: \_\_\_\_\_

GAS TRANSPORTATION AGREEMENT  
 (For Use Under FT-A Rate Schedule)

EXHIBIT A  
 AMENDMENT NO. 0  
 TO GAS TRANSPORTATION AGREEMENT  
 DATED November 1, 2019  
 BETWEEN  
 TENNESSEE GAS PIPELINE COMPANY, L.L.C.  
 AND  
 COLUMBIA GAS OF KENTUCKY INC.

Amendment Effective Date: November 1, 2019  
 Service Package: 352324-FTATGP  
 Service Package TQ: 16000 Dth

Beginning Date	Ending Date	TQ
11/01/2019	10/31/2024	16,000

BEGINNING DATE	ENDING DATE	METER	METER NAME	INTERCONNECT PARTY NAME	COUNTY	ST	ZONE	R/D	LEG	METER-TQ
11/01/2019	10/31/2024	420999	POOLING PT - 500 LEG - ZONE L	TENNESSEE GAS PIPELINE	FORREST	MS	L	R	500	16000
11/01/2019	10/31/2024	400459	COL GAS/TGP BROAD RUN COBB WV KANAW	COLUMBIA GAS TRNSMISSION	KANAWHA	WV	03	D	100	16000

Total Receipt TQ 16000  
 Total Delivery TQ 16000

Number of Receipt Points: 1  
 Number of Delivery Points: 1

GAS TRANSPORTATION AGREEMENT  
(For Use Under FT-A Rate Schedule)

"Other Provisions Permitted By Tariff Under the Applicable Rate Schedule and/or General Terms and Conditions and Pursuant to Article XXXVI of the General Terms and Conditions of Transporter's FERC Gas Tariff."

Note: Exhibit A is a reflection of the contract and all amendments as of the amendment effective date.

**GAS TRANSPORTATION AGREEMENT**  
**(For Use Under FT-A Rate Schedule)**



Tennessee Gas Pipeline  
Company, L.L.C.  
a Kinder Morgan company

October 25, 2019

Columbia Gas of Kentucky  
290 W. Nationwide Blvd.  
Columbus, OH 43215  
Attention: Michael D. Anderson

RE: Discounted Rate Agreement ("Letter Agreement")  
Rate Schedule FT-A Service Package No. 352324

Dear Michael:

In response to the request of Columbia Gas of Kentucky ("Shipper") and pursuant to Section 5.1 Rate Schedule FT-A of Tennessee Gas Pipeline Company L.L.C.'s ("Tennessee") FERC Gas Tariff, as may be amended from time to time ("Tariff"), Tennessee hereby agrees to adjust its then applicable Rate Schedule FT-A transportation rates. For the period commencing on the November 1, 2019 and extending through October 31, 2024 listed in Exhibit A to the Gas Transportation Agreement, the rate shall be adjusted as follows:

1. a) If Shipper attempts to apply this discount to any volumes and/or to any points not eligible for the discount and thereby fails to pay correctly invoiced and undisputed amounts, then, if such failure is not cured within thirty days of provision of notice by Tennessee to Shipper of such failure, Tennessee shall have the right, in its sole discretion, to immediately terminate this discount with Shipper and/or to assess, from the date of such violation of the terms of discount, the applicable Base Rate on all transactions occurring under the Service Package for the month(s) in which such limits were exceeded.
- b) For transportation service from the primary receipt point(s) listed in Exhibit A to the Gas Transportation Agreement to the primary delivery point(s) listed in Exhibit A to the Gas Transportation Agreement, and for gas delivered by Tennessee on behalf of Shipper on a secondary basis to delivery meters 400459, 460017, 420049, 420045 and/or 420079; and for volumes received by Tennessee on a secondary basis from any Zone 1 or Zone L receipt meters under the applicable Rate Schedule FT-A transportation rates for service provided under the Service Package will be:
  - i) A monthly reservation rate equal to the lesser of (i) \$4.5625 per Dth, or (ii) Tennessee's maximum applicable monthly reservation rate.
  - and
  - ii) A daily commodity rate equal to Tennessee's Maximum Applicable Commodity rate. In addition to the reservation and commodity rates specified above, for deliveries to the "Dominion/TGP Broad Run Cornwell Kan" meter (#420044), Shipper shall pay an incremental daily reservation rate equal to \$ 0.0605 per Dth/day; provided, however, that Shipper's total obligation for monthly reservation charges and incremental daily reservation charges shall not exceed Tennessee's maximum applicable reservation rate, either on a daily or monthly basis.

In addition, Shipper shall also pay ACA, applicable Fuel and Loss Retention ("F&LR") and Electric Power Cost Recovery ("EPCR") charges and all applicable surcharges specified in Tennessee's Tariff.

OCTOBER 26, 2019  
COLUMBIA GAS OF KENTUCKY  
MICHAEL ANDERSON

PAGE 2 of 2

- c) Receipts from and/or deliveries to points other than those listed above during the term of this Letter Agreement shall result in Shipper being assessed Tennessee's Base Reservation Rate under Rate Schedule FT-A applicable to the primary path divided by the number of days in the month for the entire gas transportation agreement TQ on the day(s) of such deliveries and Tennessee's applicable daily Base Commodity Rates under Rate Schedule FT-A as well as the applicable F&LR and EPCR charges and all applicable surcharges under Rate Schedule FT-A.
2. If any terms of this Letter Agreement are disallowed by any order, rulemaking, regulation or policy of the Federal Energy Regulatory Commission, Tennessee may immediately terminate this Letter Agreement. If any terms of this Letter Agreement are in any way modified by order, rulemaking, regulation or policy of the Federal Energy Regulatory Commission, Tennessee and Shipper may mutually agree to amend this Letter Agreement in order to ensure that the original commercial intent of the parties is preserved. In the event that the parties cannot achieve mutual agreement, Tennessee reserves the right to immediately terminate this Letter Agreement.

If Shipper is interested in entering into the Letter Agreement for firm capacity in accordance with the terms proposed above, please have the authorized representative of Shipper execute this Letter Agreement and return to the undersigned. This Letter Agreement will become binding upon the parties only after it then is accepted and executed by Tennessee's authorized representative on the below "Agreed to and Accepted" portion. One fully executed copy will be returned for your records.

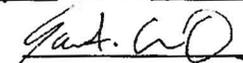
If an executed Letter Agreement is not returned via email on or before five (5) working days from the date of the Letter Agreement, then the Letter Agreement is nullified, and Shipper will be billed Tennessee's maximum reservation and commodity rates under Rate Schedule FT-A.

Sincerely,



Coralie Carter Sculley  
Director, Marketing TGP North

TENNESSEE GAS PIPELINE COMPANY, L.L.C.  
AGREED TO AND ACCEPTED  
THIS 1<sup>st</sup> DAY OF November, 2019.

By:   
Name: Ernesto A. Ochoa  
Title: Vice President - Commercial

COLUMBIA GAS OF KENTUCKY  
AGREED TO AND ACCEPTED  
THIS 29<sup>th</sup> DAY OF OCTOBER, 2019.

By:   
Name: MICHAEL A. WATSON  
Title: V.P.

Received by me 10/29/2019

Central Kentucky Transmission Company  
 FERC Gas Tariff  
 First Revised Volume No. 1

Currently Effective Rates  
 Section 1. FTS Rates  
 Version 4.0.0

Currently Effective Rates  
 Applicable to Rate Schedule FTS  
 Rate per Dth

	Base Tariff Rate 2/	Total Effective Rate 2/	Daily Rate 2/
<b>Rate Schedule FTS</b>			
Reservation Charge 1/ Commodity	\$ 0.493	0.493	0.0162
Maximum	¢ 0.00	0.00	0.00
Minimum	¢ 0.00	0.00	0.00
Overrun	¢ 1.62	1.62	1.62

1/ Minimum reservation charge is \$0.00.

2/ Excludes the Annual Charge Adjustment (ACA) Surcharge. An ACA Commodity surcharge per Dth shall be assessed where applicable pursuant to Section 154.402 of the Commission's Regulations and in accordance with Section 31 of the GTC of Transporter's FERC Gas Tariff. The ACA unit charge authorized for each fiscal year (commencing October 1) by the Commission and posted on its website (<http://www.ferc.gov>) is incorporated herein by reference.

Currently Effective Rates  
 Applicable to Rate Schedule FTS-1  
 Rates in Dollars per Dth

Rate Schedule FTS-1	<u>Base Rate</u> (1) 1/	<u>Total Effective Rate</u> (2) 1/	<u>Daily Rate</u> (3) 1/
<b><u>Market Zone</u></b>			
<b>Reservation Charge</b>			
Maximum	4.170	4.170	0.1371
Minimum	0.000	0.000	0.000
<b>Commodity</b>			
Maximum	0.0109	0.0109	0.0109
Minimum	0.0109	0.0109	0.0109
<b>Overrun</b>			
Maximum	0.1480	0.1480	0.1480
Minimum	0.0109	0.0109	0.0109

1/ Excludes the Annual Charge Adjustment (ACA) Surcharge. An ACA Commodity surcharge per Dth shall be assessed where applicable pursuant to Section 154.402 of the Commission's Regulations and in accordance with Section 31 of the GTC of Transporter's FERC Gas Tariff. The ACA unit charge authorized for each fiscal year (commencing October 1) by the Commission and posted on its website (<http://www.ferc.gov>) is incorporated herein by reference.

Issued On: October 24, 2016

Effective On: July 1, 2016

Currently Effective Rates  
 Applicable to Rate Schedule SST  
 Rate Per Dth

		Base Tariff Rate 1/ 2/	TCRA Rates	EPCA Rates	OTRA Rates	CCRM Rates	Total Effective Rate 2/	Daily Rate 2/
Rate Schedule SST								
Reservation Charge 3/4/ Commodity	\$	4.324	0.224	0.077	0.062	1.487	6.174	0.2030
Maximum	¢	1.02	0.05	0.80	0.00	0.00	1.87	1.87
Minimum	¢	1.02	0.05	0.80	0.00	0.00	1.87	1.87
Overrun 4/								
Maximum	¢	15.24	0.79	1.05	0.20	4.89	22.17	22.17
Minimum	¢	1.02	0.05	0.80	0.00	0.00	1.87	1.87

- 1/ Excludes Account 858 expenses and Electric Power Costs which are recovered through Columbia's Transportation Costs Rate Adjustment (TCRA) and Electric Power Costs Adjustment (EPCA), respectively.
- 2/ Excludes the Annual Charge Adjustment (ACA) Surcharge. An ACA Commodity surcharge per Dth shall be assessed where applicable pursuant to Section 154.402 of the Commission's Regulations and in accordance with Section 34 of the GTC of Transporter's FERC Gas Tariff. The ACA unit charge authorized for each fiscal year (commencing October 1) by the Commission and posted on its website (<http://www.ferc.gov>) is incorporated herein by reference.
- 3/ Minimum reservation charge is \$0.00.
- 4/ Shippers utilizing the Eastern Market Expansion (EME) facilities for Rate Schedule SST service will pay a total SST reservation charge of \$17.625. If EME customers incur an overrun for SST services that is provided under their EME Project service agreements, they will pay a total overrun rate of 58.97 cents. The applicable EME demand charge and EME overrun charge can be added to the applicable surcharges above to calculate the EME Total Effective Rates.

Currently Effective Rates  
 Applicable to Rate Schedule SST  
 Rate Per Dth

		Base Tariff Rate 1/ 2/	TCRA Rates	EPCA Rates	OTRA Rates	CCRM Rates	Total Effective Rate 2/	Daily Rate 2/
Rate Schedule SST								
Reservation Charge 3/ 4/	\$	5.743	0.224	0.077	0.062	0.474	6.580	0.2163
Commodity								
Maximum	¢	1.02	0.05	0.80	0.00	0.00	1.87	1.87
Minimum	¢	1.02	0.05	0.80	0.00	0.00	1.87	1.87
Overrun 4/								
Maximum	¢	19.90	0.79	1.05	0.20	1.56	23.50	23.50
Minimum	¢	1.02	0.05	0.80	0.00	0.00	1.87	1.87

- 1/ Excludes Account 858 expenses and Electric Power Costs which are recovered through Columbia's Transportation Costs Rate Adjustment (TCRA) and Electric Power Costs Adjustment (EPCA), respectively.
- 2/ Excludes the Annual Charge Adjustment (ACA) Surcharge. An ACA Commodity surcharge per Dth shall be assessed where applicable pursuant to Section 154.402 of the Commission's Regulations and in accordance with Section 34 of the GTC of Transporter's FERC Gas Tariff. The ACA unit charge authorized for each fiscal year (commencing October 1) by the Commission and posted on its website (<http://www.ferc.gov>) is incorporated herein by reference.
- 3/ Minimum reservation charge is \$0.00.
- 4/ Shippers utilizing the Eastern Market Expansion (EME) facilities for Rate Schedule SST service will pay a total SST reservation charge of \$17.625. If EME customers incur an overrun for SST services that is provided under their EME Project service agreements, they will pay a total overrun rate of 58.97 cents. The applicable EME demand charge and EME overrun charge can be added to the applicable surcharges above to calculate the EME Total Effective Rates.

Currently Effective Rates  
 Applicable to Rate Schedule SST  
 Rate Per Dth

		Base Tariff Rate 1/ 2/	TCRA Rates	EPCA Rates	OTRA Rates	CCRM Rates	Total Effective Rate 2/	Daily Rate 2/
Rate Schedule SST								
Reservation Charge 3/4/ Commodity	\$	5.743	0.257	0.058	0.062	0.474	6.594	0.2167
Maximum	¢	1.02	0.14	0.44	0.00	0.00	1.60	1.60
Minimum	¢	1.02	0.14	0.44	0.00	0.00	1.60	1.60
Overrun 4/								
Maximum	¢	19.90	0.98	0.63	0.20	1.56	23.27	23.27
Minimum	¢	1.02	0.14	0.44	0.00	0.00	1.60	1.60

- 1/ Excludes Account 858 expenses and Electric Power Costs which are recovered through Columbia's Transportation Costs Rate Adjustment (TCRA) and Electric Power Costs Adjustment (EPCA), respectively.
- 2/ Excludes the Annual Charge Adjustment (ACA) Surcharge. An ACA Commodity surcharge per Dth shall be assessed where applicable pursuant to Section 154.402 of the Commission's Regulations and in accordance with Section 34 of the GTC of Transporter's FERC Gas Tariff. The ACA unit charge authorized for each fiscal year (commencing October 1) by the Commission and posted on its website (<http://www.ferc.gov>) is incorporated herein by reference.
- 3/ Minimum reservation charge is \$0.00.
- 4/ Shippers utilizing the Eastern Market Expansion (EME) facilities for Rate Schedule SST service will pay a total SST reservation charge of \$17.625. If EME customers incur an overrun for SST services that is provided under their EME Project service agreements, they will pay a total overrun rate of 58.97 cents. The applicable EME demand charge and EME overrun charge can be added to the applicable surcharges above to calculate the EME Total Effective Rates.

Issued On: March 1, 2019

Effective On: April 1, 2019

Currently Effective Rates  
 Applicable to Rate Schedule SST  
 Rate Per Dth

		Base Tariff Rate 1/ 2/	TCRA Rates	EPCA Rates	OTRA Rates	CCRM Rates	Total Effective Rate 2/	Daily Rate 2/
Rate Schedule SST								
Reservation Charge 3/4/ Commodity	\$	5.743	0.257	0.058	0.047	0.474	6.579	0.2162
Maximum	¢	1.02	0.14	0.44	0.00	0.00	1.60	1.60
Minimum	¢	1.02	0.14	0.44	0.00	0.00	1.60	1.60
Overrun 4/								
Maximum	¢	19.90	0.98	0.63	0.15	1.56	23.22	23.22
Minimum	¢	1.02	0.14	0.44	0.00	0.00	1.60	1.60

- 1/ Excludes Account 858 expenses and Electric Power Costs which are recovered through Columbia's Transportation Costs Rate Adjustment (TCRA) and Electric Power Costs Adjustment (EPCA), respectively.
- 2/ Excludes the Annual Charge Adjustment (ACA) Surcharge. An ACA Commodity surcharge per Dth shall be assessed where applicable pursuant to Section 154.402 of the Commission's Regulations and in accordance with Section 34 of the GTC of Transporter's FERC Gas Tariff. The ACA unit charge authorized for each fiscal year (commencing October 1) by the Commission and posted on its website (<http://www.ferc.gov>) is incorporated herein by reference.
- 3/ Minimum reservation charge is \$0.00.
- 4/ Shippers utilizing the Eastern Market Expansion (EME) facilities for Rate Schedule SST service will pay a total SST reservation charge of \$17.625. If EME customers incur an overrun for SST services that is provided under their EME Project service agreements, they will pay a total overrun rate of 58.97 cents. The applicable EME demand charge and EME overrun charge can be added to the applicable surcharges above to calculate the EME Total Effective Rates.

Issued On: April 1, 2019

Effective On: May 1, 2019

Currently Effective Rates  
 Applicable to Rate Schedule SST  
 Rate Per Dth

		Base Tariff Rate 1/ 2/	TCRA Rates	EPCA Rates	OTRA Rates	CCRM Rates	Total Effective Rate 2/	Daily Rate 2/
Rate Schedule SST								
Reservation Charge 3/4/ Commodity	\$	5.743	0.290	0.058	0.047	0.474	6.612	0.2173
Maximum	¢	1.02	0.16	0.44	0.00	0.00	1.62	1.62
Minimum	¢	1.02	0.16	0.44	0.00	0.00	1.62	1.62
Overrun 4/								
Maximum	¢	19.90	1.11	0.63	0.15	1.56	23.35	23.35
Minimum	¢	1.02	0.16	0.44	0.00	0.00	1.62	1.62

- 1/ Excludes Account 858 expenses and Electric Power Costs which are recovered through Columbia's Transportation Costs Rate Adjustment (TCRA) and Electric Power Costs Adjustment (EPCA), respectively.
- 2/ Excludes the Annual Charge Adjustment (ACA) Surcharge. An ACA Commodity surcharge per Dth shall be assessed where applicable pursuant to Section 154.402 of the Commission's Regulations and in accordance with Section 34 of the GTC of Transporter's FERC Gas Tariff. The ACA unit charge authorized for each fiscal year (commencing October 1) by the Commission and posted on its website (<http://www.ferc.gov>) is incorporated herein by reference.
- 3/ Minimum reservation charge is \$0.00.
- 4/ Shippers utilizing the Eastern Market Expansion (EME) facilities for Rate Schedule SST service will pay a total SST reservation charge of \$17.625. If EME customers incur an overrun for SST services that is provided under their EME Project service agreements, they will pay a total overrun rate of 58.97 cents. The applicable EME demand charge and EME overrun charge can be added to the applicable surcharges above to calculate the EME Total Effective Rates.

Currently Effective Rates  
 Applicable to Rate Schedule SST  
 Rate Per Dth

		Base Tariff Rate 1/ 2/	TCRA Rates	EPCA Rates	OTRA Rates	CCRM Rates	Total Effective Rate 2/	Daily Rate 2/
Rate Schedule SST								
Reservation Charge 3/4/ Commodity	\$	5.743	0.290	0.058	0.089	0.474	6.654	0.2187
Maximum	¢	1.02	0.16	0.44	0.00	0.00	1.62	1.62
Minimum	¢	1.02	0.16	0.44	0.00	0.00	1.62	1.62
Overrun 4/								
Maximum	¢	19.90	1.11	0.63	0.29	1.56	23.49	23.49
Minimum	¢	1.02	0.16	0.44	0.00	0.00	1.62	1.62

- 1/ Excludes Account 858 expenses and Electric Power Costs which are recovered through Columbia's Transportation Costs Rate Adjustment (TCRA) and Electric Power Costs Adjustment (EPCA), respectively.
- 2/ Excludes the Annual Charge Adjustment (ACA) Surcharge. An ACA Commodity surcharge per Dth shall be assessed where applicable pursuant to Section 154.402 of the Commission's Regulations and in accordance with Section 34 of the GTC of Transporter's FERC Gas Tariff. The ACA unit charge authorized for each fiscal year (commencing October 1) by the Commission and posted on its website (<http://www.ferc.gov>) is incorporated herein by reference.
- 3/ Minimum reservation charge is \$0.00.
- 4/ Shippers utilizing the Eastern Market Expansion (EME) facilities for Rate Schedule SST service will pay a total SST reservation charge of \$17.625. If EME customers incur an overrun for SST services that is provided under their EME Project service agreements, they will pay a total overrun rate of 58.97 cents. The applicable EME demand charge and EME overrun charge can be added to the applicable surcharges above to calculate the EME Total Effective Rates.

Currently Effective Rates  
 Applicable to Rate Schedule FTS  
 Rate Per Dth

		Base Tariff Rate 1/ 2/	TCRA Rates	EPCA Rates	OTRA Rates	CCRM Rates	Total Effective Rate 2/	Daily Rate 2/
Rate Schedule FTS								
Reservation Charge 3/	\$	4.484	0.224	0.077	0.062	1.487	6.334	0.2082
Commodity								
Maximum	¢	1.04	0.05	0.80	0.00	0.00	1.89	1.89
Minimum	¢	1.04	0.05	0.80	0.00	0.00	1.89	1.89
Overrun								
Maximum	¢	15.78	0.79	1.05	0.20	4.89	22.71	22.71
Minimum	¢	1.04	0.05	0.80	0.00	0.00	1.89	1.89

- 1/ Excludes Account 858 expenses and Electric Power Costs which are recovered through Columbia's Transportation Costs Rate Adjustment (TCRA) and Electric Power Costs Adjustment (EPCA), respectively.
- 2/ Excludes the Annual Charge Adjustment (ACA) Surcharge. An ACA Commodity surcharge per Dth shall be assessed where applicable pursuant to Section 154.402 of the Commission's Regulations and in accordance with Section 34 of the GTC of Transporter's FERC Gas Tariff. The ACA unit charge authorized for each fiscal year (commencing October 1) by the Commission and posted on its website (<http://www.ferc.gov>) is incorporated herein by reference.
- 3/ Minimum reservation charge is \$0.00.

Currently Effective Rates  
 Applicable to Rate Schedule FTS  
 Rate Per Dth

	Base Tariff Rate 1/ 2/	TCRA Rates	EPCA Rates	OTRA Rates	CCRM Rates	Total Effective Rate 2/	Daily Rate 2/
Rate Schedule FTS							
Reservation Charge 3/ Commodity	\$ 5.903	0.224	0.077	0.062	0.474	6.740	0.2216
Maximum	¢ 1.04	0.05	0.80	0.00	0.00	1.89	1.89
Minimum	¢ 1.04	0.05	0.80	0.00	0.00	1.89	1.89
Overrun							
Maximum	¢ 20.45	0.79	1.05	0.20	1.56	24.05	24.05
Minimum	¢ 1.04	0.05	0.80	0.00	0.00	1.89	1.89

- 1/ Excludes Account 858 expenses and Electric Power Costs which are recovered through Columbia's Transportation Costs Rate Adjustment (TCRA) and Electric Power Costs Adjustment (EPCA), respectively.
- 2/ Excludes the Annual Charge Adjustment (ACA) Surcharge. An ACA Commodity surcharge per Dth shall be assessed where applicable pursuant to Section 154.402 of the Commission's Regulations and in accordance with Section 34 of the GTC of Transporter's FERC Gas Tariff. The ACA unit charge authorized for each fiscal year (commencing October 1) by the Commission and posted on its website (<http://www.ferc.gov>) is incorporated herein by reference.
- 3/ Minimum reservation charge is \$0.00.

Currently Effective Rates  
 Applicable to Rate Schedule FTS  
 Rate Per Dth

		Base Tariff Rate 1/ 2/	TCRA Rates	EPCA Rates	OTRA Rates	CCRM Rates	Total Effective Rate 2/	Daily Rate 2/
Rate Schedule FTS								
Reservation Charge 3/ Commodity	\$	5.903	0.257	0.058	0.062	0.474	6.754	0.2220
Maximum	¢	1.04	0.14	0.44	0.00	0.00	1.62	1.62
Minimum	¢	1.04	0.14	0.44	0.00	0.00	1.62	1.62
Overrun								
Maximum	¢	20.45	0.98	0.63	0.20	1.56	23.82	23.82
Minimum	¢	1.04	0.14	0.44	0.00	0.00	1.62	1.62

- 1/ Excludes Account 858 expenses and Electric Power Costs which are recovered through Columbia's Transportation Costs Rate Adjustment (TCRA) and Electric Power Costs Adjustment (EPCA), respectively.
- 2/ Excludes the Annual Charge Adjustment (ACA) Surcharge. An ACA Commodity surcharge per Dth shall be assessed where applicable pursuant to Section 154.402 of the Commission's Regulations and in accordance with Section 34 of the GTC of Transporter's FERC Gas Tariff. The ACA unit charge authorized for each fiscal year (commencing October 1) by the Commission and posted on its website (<http://www.ferc.gov>) is incorporated herein by reference.
- 3/ Minimum reservation charge is \$0.00.

Currently Effective Rates  
 Applicable to Rate Schedule FTS  
 Rate Per Dth

		Base Tariff Rate 1/ 2/	TCRA Rates	EPCA Rates	OTRA Rates	CCRM Rates	Total Effective Rate 2/	Daily Rate 2/
Rate Schedule FTS								
Reservation Charge 3/	\$	5.903	0.257	0.058	0.047	0.474	6.739	0.2215
Commodity								
Maximum	¢	1.04	0.14	0.44	0.00	0.00	1.62	1.62
Minimum	¢	1.04	0.14	0.44	0.00	0.00	1.62	1.62
Overrun								
Maximum	¢	20.45	0.98	0.63	0.15	1.56	23.77	23.77
Minimum	¢	1.04	0.14	0.44	0.00	0.00	1.62	1.62

- 1/ Excludes Account 858 expenses and Electric Power Costs which are recovered through Columbia's Transportation Costs Rate Adjustment (TCRA) and Electric Power Costs Adjustment (EPCA), respectively.
- 2/ Excludes the Annual Charge Adjustment (ACA) Surcharge. An ACA Commodity surcharge per Dth shall be assessed where applicable pursuant to Section 154.402 of the Commission's Regulations and in accordance with Section 34 of the GTC of Transporter's FERC Gas Tariff. The ACA unit charge authorized for each fiscal year (commencing October 1) by the Commission and posted on its website (<http://www.ferc.gov>) is incorporated herein by reference.
- 3/ Minimum reservation charge is \$0.00.

Currently Effective Rates  
 Applicable to Rate Schedule FTS  
 Rate Per Dth

	Base Tariff Rate 1/ 2/	TCRA Rates	EPCA Rates	OTRA Rates	CCRM Rates	Total Effective Rate 2/	Daily Rate 2/
Rate Schedule FTS							
Reservation Charge 3/ Commodity	\$ 5.903	0.290	0.058	0.047	0.474	6.772	0.2226
Maximum	¢ 1.04	0.16	0.44	0.00	0.00	1.64	1.64
Minimum	¢ 1.04	0.16	0.44	0.00	0.00	1.64	1.64
Overrun							
Maximum	¢ 20.45	1.11	0.63	0.15	1.56	23.90	23.90
Minimum	¢ 1.04	0.16	0.44	0.00	0.00	1.64	1.64

- 1/ Excludes Account 858 expenses and Electric Power Costs which are recovered through Columbia's Transportation Costs Rate Adjustment (TCRA) and Electric Power Costs Adjustment (EPCA), respectively.
- 2/ Excludes the Annual Charge Adjustment (ACA) Surcharge. An ACA Commodity surcharge per Dth shall be assessed where applicable pursuant to Section 154.402 of the Commission's Regulations and in accordance with Section 34 of the GTC of Transporter's FERC Gas Tariff. The ACA unit charge authorized for each fiscal year (commencing October 1) by the Commission and posted on its website (<http://www.ferc.gov>) is incorporated herein by reference.
- 3/ Minimum reservation charge is \$0.00.

Issued On: May 1, 2019

Effective On: June 1, 2019

Currently Effective Rates  
 Applicable to Rate Schedule FTS  
 Rate Per Dth

	Base Tariff Rate 1/ 2/	TCRA Rates	EPCA Rates	OTRA Rates	CCRM Rates	Total Effective Rate 2/	Daily Rate 2/
Rate Schedule FTS							
Reservation Charge 3/	\$ 5.903	0.290	0.058	0.089	0.474	6.814	0.2240
Commodity							
Maximum	¢ 1.04	0.16	0.44	0.00	0.00	1.64	1.64
Minimum	¢ 1.04	0.16	0.44	0.00	0.00	1.64	1.64
Overrun							
Maximum	¢ 20.45	1.11	0.63	0.29	1.56	24.04	24.04
Minimum	¢ 1.04	0.16	0.44	0.00	0.00	1.64	1.64

- 1/ Excludes Account 858 expenses and Electric Power Costs which are recovered through Columbia's Transportation Costs Rate Adjustment (TCRA) and Electric Power Costs Adjustment (EPCA), respectively.
- 2/ Excludes the Annual Charge Adjustment (ACA) Surcharge. An ACA Commodity surcharge per Dth shall be assessed where applicable pursuant to Section 154.402 of the Commission's Regulations and in accordance with Section 34 of the GTC of Transporter's FERC Gas Tariff. The ACA unit charge authorized for each fiscal year (commencing October 1) by the Commission and posted on its website (<http://www.ferc.gov>) is incorporated herein by reference.
- 3/ Minimum reservation charge is \$0.00.

Currently Effective Rates  
 Applicable to Rate Schedule FSS  
 Rate Per Dth

	Base Tariff Rate 1/	Transportation Cost Rate Adjustment Current Surcharge	Electric Power Costs Adjustment Current Surcharge	Annual Charge Adjustment 2/	Total Effective Rate	Daily Rate
Rate Schedule FSS						
Reservation Charge 3/ \$	1.501	-	-	-	1.501	0.0493
Capacity 3/ ¢	2.88	-	-	-	2.88	2.88
Injection ¢	1.53	-	-	-	1.53	1.53
Withdrawal ¢	1.53	-	-	-	1.53	1.53
Overrun 3/ ¢	10.87	-	-	-	10.87	10.87

1/ Excludes Account 858 expenses and Electric Power Costs which are recovered through Columbia's Transportation Costs Rate Adjustment (TCRA) and Electric Power Costs Adjustment (EPCA), respectively.

2/ ACA assessed where applicable pursuant to Section 154.402 of the Commission's Regulations.

3/ Shippers utilizing the Eastern Market Expansion (EME) facilities for FSS service will pay a total FSS MDSQ reservation charge of \$4.130 and a total FSS SCQ capacity rate of 6.80 cents. If EME customers incur an overrun for FSS services that is provided under their EME Project service agreements, they will pay a total FSS overrun rate of 23.44 cents. The additional EME demand charges and EME overrun charges can be added to the applicable surcharges above to develop the EME Total Effective Rate.

Tennessee Gas Pipeline Company, L.L.C.  
 FERC NGA Gas Tariff  
 Sixth Revised Volume No. 1

Thirteenth Revised Sheet No. 14  
 Superseding  
 Twelfth Revised Sheet No. 14

RATES PER DEKATHERM

FIRM TRANSPORTATION RATES  
 RATE SCHEDULE FOR FT-A

Base Reservation Rates	RECEIPT ZONE	DELIVERY ZONE							
		0	L	1	2	3	4	5	6
	0	\$5.4269		\$11.3406	\$15.2546	\$15.5246	\$17.0584	\$18.1067	\$22.7176
	L		\$4.8178						
	1	\$8.1697		\$7.8313	\$10.4219	\$14.7637	\$14.5399	\$16.3977	\$20.1633
	2	\$15.2547		\$10.3593	\$5.3879	\$5.0367	\$6.4446	\$8.8638	\$11.4421
	3	\$15.5246		\$8.2056	\$5.4314	\$3.9184	\$6.0190	\$10.8858	\$12.5789
	4	\$19.7110		\$18.1718	\$6.9250	\$10.5240	\$5.1514	\$5.5711	\$7.9589
	5	\$23.5025		\$16.5148	\$7.2643	\$8.7898	\$5.7227	\$5.3680	\$6.9882
	6	\$27.1880		\$18.9685	\$13.0548	\$14.3818	\$10.1587	\$5.3443	\$4.6263

Daily Base Reservation Rate 1/	RECEIPT ZONE	DELIVERY ZONE							
		0	L	1	2	3	4	5	6
	0	\$0.1784		\$0.3728	\$0.5015	\$0.5104	\$0.5608	\$0.5953	\$0.7469
	L		\$0.1584						
	1	\$0.2686		\$0.2575	\$0.3426	\$0.4854	\$0.4780	\$0.5391	\$0.6629
	2	\$0.5015		\$0.3406	\$0.1771	\$0.1656	\$0.2119	\$0.2914	\$0.3762
	3	\$0.5104		\$0.2698	\$0.1786	\$0.1288	\$0.1979	\$0.3579	\$0.4136
	4	\$0.6480		\$0.5974	\$0.2277	\$0.3460	\$0.1694	\$0.1832	\$0.2617
	5	\$0.7727		\$0.5430	\$0.2388	\$0.2890	\$0.1881	\$0.1765	\$0.2297
	6	\$0.8939		\$0.6236	\$0.4292	\$0.4728	\$0.3340	\$0.1757	\$0.1521

Maximum Reservation Rates 2/, 3/	RECEIPT ZONE	DELIVERY ZONE							
		0	L	1	2	3	4	5	6
	0	\$5.4437		\$11.3574	\$15.2714	\$15.5414	\$17.0752	\$18.1235	\$22.7344
	L		\$4.8346						
	1	\$8.1865		\$7.8481	\$10.4387	\$14.7805	\$14.5567	\$16.4145	\$20.1801
	2	\$15.2715		\$10.3761	\$5.4047	\$5.0535	\$6.4614	\$8.8806	\$11.4589
	3	\$15.5414		\$8.2224	\$5.4482	\$3.9352	\$6.0358	\$10.9026	\$12.5957
	4	\$19.7278		\$18.1886	\$6.9418	\$10.5408	\$5.1682	\$5.5879	\$7.9757
	5	\$23.5193		\$16.5316	\$7.2811	\$8.8066	\$5.7395	\$5.3848	\$7.0050
	6	\$27.2048		\$18.9853	\$13.0716	\$14.3986	\$10.1755	\$5.3611	\$4.6431

Notes:

- 1/ Applicable to demand charge credits and secondary points under discounted rate agreements.
- 2/ Includes a per Dth charge for the PCB Surcharge Adjustment per Article XXXII of the General Terms and Conditions of \$0.0000.
- 3/ Includes a per Dth charge for the PS/GHG Surcharge Adjustment per Article XXXVIII of the General Terms and Conditions of \$0.0168.

Tennessee Gas Pipeline Company, L.L.C.  
 FERC NGA Gas Tariff  
 Sixth Revised Volume No. 1

Fifteenth Revised Sheet No. 15  
 Superseding  
 Fourteenth Revised Sheet No. 15

RATES PER DEKATHERM

COMMODITY RATES  
 RATE SCHEDULE FOR FT-A

Base  
 Commodity Rates

RECEIPT ZONE	DELIVERY ZONE							
	0	L	1	2	3	4	5	6
0	\$0.0032		\$0.0115	\$0.0177	\$0.0219	\$0.2613	\$0.2494	\$0.2968
L		\$0.0012						
1	\$0.0042		\$0.0081	\$0.0147	\$0.0179	\$0.2222	\$0.2266	\$0.2587
2	\$0.0167		\$0.0087	\$0.0012	\$0.0028	\$0.0719	\$0.1153	\$0.1278
3	\$0.0207		\$0.0169	\$0.0026	\$0.0002	\$0.0961	\$0.1330	\$0.1452
4	\$0.0250		\$0.0205	\$0.0087	\$0.0105	\$0.0445	\$0.0629	\$0.1019
5	\$0.0284		\$0.0256	\$0.0100	\$0.0118	\$0.0626	\$0.0620	\$0.0770
6	\$0.0346		\$0.0300	\$0.0143	\$0.0163	\$0.0963	\$0.0522	\$0.0317

Minimum  
 Commodity Rates 1/, 2/

RECEIPT ZONE	DELIVERY ZONE							
	0	L	1	2	3	4	5	6
0	\$0.0032		\$0.0115	\$0.0177	\$0.0219	\$0.0250	\$0.0284	\$0.0346
L		\$0.0012						
1	\$0.0042		\$0.0081	\$0.0147	\$0.0179	\$0.0210	\$0.0256	\$0.0300
2	\$0.0167		\$0.0087	\$0.0012	\$0.0028	\$0.0056	\$0.0100	\$0.0143
3	\$0.0207		\$0.0169	\$0.0026	\$0.0002	\$0.0081	\$0.0118	\$0.0163
4	\$0.0250		\$0.0205	\$0.0087	\$0.0105	\$0.0028	\$0.0046	\$0.0092
5	\$0.0284		\$0.0256	\$0.0100	\$0.0118	\$0.0046	\$0.0046	\$0.0066
6	\$0.0346		\$0.0300	\$0.0143	\$0.0163	\$0.0086	\$0.0041	\$0.0020

Maximum  
 Commodity Rates 1/, 2/, 3/

RECEIPT ZONE	DELIVERY ZONE							
	0	L	1	2	3	4	5	6
0	\$0.0038		\$0.0121	\$0.0183	\$0.0225	\$0.2619	\$0.2500	\$0.2974
L		\$0.0018						
1	\$0.0048		\$0.0087	\$0.0153	\$0.0185	\$0.2228	\$0.2272	\$0.2593
2	\$0.0173		\$0.0093	\$0.0018	\$0.0034	\$0.0725	\$0.1159	\$0.1284
3	\$0.0213		\$0.0175	\$0.0032	\$0.0008	\$0.0967	\$0.1336	\$0.1458
4	\$0.0256		\$0.0211	\$0.0093	\$0.0111	\$0.0451	\$0.0635	\$0.1025
5	\$0.0290		\$0.0262	\$0.0106	\$0.0124	\$0.0632	\$0.0626	\$0.0776
6	\$0.0352		\$0.0306	\$0.0149	\$0.0169	\$0.0969	\$0.0528	\$0.0323

Notes:

- 1/ Rates stated above exclude the ACA Surcharge as revised annually and posted on the FERC website at <http://www.ferc.gov> on the Annual Charges page of the Natural Gas section. The ACA Surcharge is incorporated by reference into Transporter's Tariff and shall apply to all transportation under this Rate Schedule as provided in Article XXIV of the General Terms and Conditions.
- 2/ The applicable F&LR's and EPCR's, determined pursuant to Article XXXVII of the General Terms and Conditions, are listed on Sheet No. 32.
- 3/ Includes a per Dth charge for the PS/GHG Surcharge Adjustment per Article XXXVIII of the General Terms and Conditions of \$0.0006.

Tennessee Gas Pipeline Company, L.L.C.  
 FERC NGA Gas Tariff  
 Sixth Revised Volume No. 1

Sixteenth Revised Sheet No. 16  
 Superseding  
 Fifteenth Revised Sheet No. 16

RATES PER DEKATHERM

AUTHORIZED OVERRUN RATES  
 FOR RATE SCHEDULE FT-A

Maximum Commodity Rates 1/, 2/, 3/, 4/ -----	RECEIPT ZONE	DELIVERY ZONE							
		0	L	1	2	3	4	5	6
	0	\$0.1827		\$0.3850	\$0.5195	\$0.5324	\$0.8233	\$0.8458	\$1.0449
	L		\$0.1608						
	1	\$0.2738		\$0.2663	\$0.3578	\$0.5036	\$0.7014	\$0.7669	\$0.9227
	2	\$0.5186		\$0.3500	\$0.1795	\$0.1694	\$0.2850	\$0.4080	\$0.5052
	3	\$0.5313		\$0.2871	\$0.1823	\$0.1302	\$0.2952	\$0.4922	\$0.5599
	4	\$0.6729		\$0.6181	\$0.2371	\$0.3572	\$0.2150	\$0.2473	\$0.3648
	5	\$0.8008		\$0.5685	\$0.2494	\$0.3014	\$0.2520	\$0.2397	\$0.3081
	6	\$0.9279		\$0.6533	\$0.4440	\$0.4895	\$0.4315	\$0.2290	\$0.1850

Notes:

- 1/ Rates stated above exclude the ACA Surcharge as revised annually and posted on the FERC website at <http://www.ferc.gov> on the Annual Charges page of the Natural Gas section. The ACA Surcharge is incorporated by reference into Transporter's Tariff and shall apply to all transportation under this Rate Schedule as provided in Article XXIV of the General Terms and Conditions.
- 2/ The applicable F&LR's and EPCR's, determined pursuant to Article XXXVII of the General Terms and Conditions, are listed on Sheet No. 32.
- 3/ Includes a per Dth charge for the PCB Surcharge Adjustment per Article XXXII of the General Terms and Conditions of \$0.0000 Daily Reservation.
- 4/ Includes a per Dth charge for the PS/GHG Surcharge Adjustment per Article XXXVIII of the General Terms and Conditions of \$0.0006 Daily Reservation, \$0.0006 Commodity.

Tennessee Gas Pipeline Company, L.L.C.  
 FERC NGA Gas Tariff  
 Sixth Revised Volume No. 1

Fifteenth Revised Sheet No. 14  
 Superseding  
 Fourteenth Revised Sheet No. 14

RATES PER DEKATHERM

FIRM TRANSPORTATION RATES  
 RATE SCHEDULE FOR FT-A

Base Reservation Rates	RECEIPT ZONE	DELIVERY ZONE							
		0	L	1	2	3	4	5	6
	0	\$4.9656		\$10.3766	\$13.9580	\$14.2050	\$15.6084	\$16.5676	\$20.7866
	L		\$4.4083						
	1	\$7.4753		\$7.1656	\$9.5360	\$13.5088	\$13.3040	\$15.0039	\$18.4494
	2	\$13.9581		\$9.4788	\$4.9299	\$4.6086	\$5.8968	\$8.1104	\$10.4695
	3	\$14.2050		\$7.5081	\$4.9697	\$3.5853	\$5.5074	\$9.9605	\$11.5097
	4	\$18.0356		\$16.6272	\$6.3364	\$9.6295	\$4.7135	\$5.0976	\$7.2824
	5	\$21.5048		\$15.1110	\$6.6468	\$8.0427	\$5.2363	\$4.9117	\$6.3942
	6	\$24.8770		\$17.3562	\$11.9451	\$13.1593	\$9.2952	\$4.8900	\$4.2331

Daily Base Reservation Rate 1/	RECEIPT ZONE	DELIVERY ZONE							
		0	L	1	2	3	4	5	6
	0	\$0.1633		\$0.3411	\$0.4589	\$0.4670	\$0.5132	\$0.5447	\$0.6834
	L		\$0.1449						
	1	\$0.2458		\$0.2356	\$0.3135	\$0.4441	\$0.4374	\$0.4933	\$0.6066
	2	\$0.4589		\$0.3116	\$0.1621	\$0.1515	\$0.1939	\$0.2666	\$0.3442
	3	\$0.4670		\$0.2468	\$0.1634	\$0.1179	\$0.1811	\$0.3275	\$0.3784
	4	\$0.5930		\$0.5466	\$0.2083	\$0.3166	\$0.1550	\$0.1676	\$0.2394
	5	\$0.7070		\$0.4968	\$0.2185	\$0.2644	\$0.1722	\$0.1615	\$0.2102
	6	\$0.8179		\$0.5706	\$0.3927	\$0.4326	\$0.3056	\$0.1608	\$0.1392

Maximum Reservation Rates 2/, 3/	RECEIPT ZONE	DELIVERY ZONE							
		0	L	1	2	3	4	5	6
	0	\$4.9837		\$10.3947	\$13.9761	\$14.2231	\$15.6265	\$16.5857	\$20.8047
	L		\$4.4264						
	1	\$7.4934		\$7.1837	\$9.5541	\$13.5269	\$13.3221	\$15.0220	\$18.4675
	2	\$13.9762		\$9.4969	\$4.9480	\$4.6267	\$5.9149	\$8.1285	\$10.4876
	3	\$14.2231		\$7.5262	\$4.9878	\$3.6034	\$5.5255	\$9.9786	\$11.5278
	4	\$18.0537		\$16.6453	\$6.3545	\$9.6476	\$4.7316	\$5.1157	\$7.3005
	5	\$21.5229		\$15.1291	\$6.6649	\$8.0608	\$5.2544	\$4.9298	\$6.4123
	6	\$24.8951		\$17.3743	\$11.9632	\$13.1774	\$9.3133	\$4.9081	\$4.2512

Notes:

- 1/ Applicable to demand charge credits and secondary points under discounted rate agreements.
- 2/ Includes a per Dth charge for the PCB Surcharge Adjustment per Article XXXII of the General Terms and Conditions of \$0.0000.
- 3/ Includes a per Dth charge for the PS/GHG Surcharge Adjustment per Article XXXVIII of the General Terms and Conditions of \$0.0181.

Tennessee Gas Pipeline Company, L.L.C.  
 FERC NGA Gas Tariff  
 Sixth Revised Volume No. 1

Seventeenth Revised Sheet No. 15  
 Superseding  
 Sixteenth Revised Sheet No. 15

RATES PER DEKATHERM

COMMODITY RATES  
 RATE SCHEDULE FOR FT-A

Base  
 Commodity Rates

RECEIPT ZONE	DELIVERY ZONE							
	0	L	1	2	3	4	5	6
0	\$0.0032		\$0.0115	\$0.0177	\$0.0219	\$0.2391	\$0.2282	\$0.2716
L		\$0.0012						
1	\$0.0042		\$0.0081	\$0.0147	\$0.0179	\$0.2033	\$0.2073	\$0.2367
2	\$0.0167		\$0.0087	\$0.0012	\$0.0028	\$0.0658	\$0.1055	\$0.1169
3	\$0.0207		\$0.0169	\$0.0026	\$0.0002	\$0.0879	\$0.1217	\$0.1329
4	\$0.0250		\$0.0205	\$0.0087	\$0.0105	\$0.0407	\$0.0576	\$0.0932
5	\$0.0284		\$0.0256	\$0.0100	\$0.0118	\$0.0573	\$0.0567	\$0.0705
6	\$0.0346		\$0.0300	\$0.0143	\$0.0163	\$0.0881	\$0.0478	\$0.0290

Minimum  
 Commodity Rates 1/, 2/

RECEIPT ZONE	DELIVERY ZONE							
	0	L	1	2	3	4	5	6
0	\$0.0032		\$0.0115	\$0.0177	\$0.0219	\$0.0250	\$0.0284	\$0.0346
L		\$0.0012						
1	\$0.0042		\$0.0081	\$0.0147	\$0.0179	\$0.0210	\$0.0256	\$0.0300
2	\$0.0167		\$0.0087	\$0.0012	\$0.0028	\$0.0056	\$0.0100	\$0.0143
3	\$0.0207		\$0.0169	\$0.0026	\$0.0002	\$0.0081	\$0.0118	\$0.0163
4	\$0.0250		\$0.0205	\$0.0087	\$0.0105	\$0.0028	\$0.0046	\$0.0092
5	\$0.0284		\$0.0256	\$0.0100	\$0.0118	\$0.0046	\$0.0046	\$0.0066
6	\$0.0346		\$0.0300	\$0.0143	\$0.0163	\$0.0086	\$0.0041	\$0.0020

Maximum  
 Commodity Rates 1/, 2/, 3/

RECEIPT ZONE	DELIVERY ZONE							
	0	L	1	2	3	4	5	6
0	\$0.0039		\$0.0122	\$0.0184	\$0.0226	\$0.2398	\$0.2289	\$0.2723
L		\$0.0019						
1	\$0.0049		\$0.0088	\$0.0154	\$0.0186	\$0.2040	\$0.2080	\$0.2374
2	\$0.0174		\$0.0094	\$0.0019	\$0.0035	\$0.0665	\$0.1062	\$0.1176
3	\$0.0214		\$0.0176	\$0.0033	\$0.0009	\$0.0886	\$0.1224	\$0.1336
4	\$0.0257		\$0.0212	\$0.0094	\$0.0112	\$0.0414	\$0.0583	\$0.0939
5	\$0.0291		\$0.0263	\$0.0107	\$0.0125	\$0.0580	\$0.0574	\$0.0712
6	\$0.0353		\$0.0307	\$0.0150	\$0.0170	\$0.0888	\$0.0485	\$0.0297

Notes:

- 1/ Rates stated above exclude the ACA Surcharge as revised annually and posted on the FERC website at <http://www.ferc.gov> on the Annual Charges page of the Natural Gas section. The ACA Surcharge is incorporated by reference into Transporter's Tariff and shall apply to all transportation under this Rate Schedule as provided in Article XXIV of the General Terms and Conditions.
- 2/ The applicable F&LR's and EPCR's, determined pursuant to Article XXXVII of the General Terms and Conditions, are listed on Sheet No. 32.
- 3/ Includes a per Dth charge for the PS/GHG Surcharge Adjustment per Article XXXVIII of the General Terms and Conditions of \$0.0007.

Tennessee Gas Pipeline Company, L.L.C.  
 FERC NGA Gas Tariff  
 Sixth Revised Volume No. 1

Eighteenth Revised Sheet No. 16  
 Superseding  
 Seventeenth Revised Sheet No. 16

RATES PER DEKATHERM

AUTHORIZED OVERRUN RATES  
 FOR RATE SCHEDULE FT-A

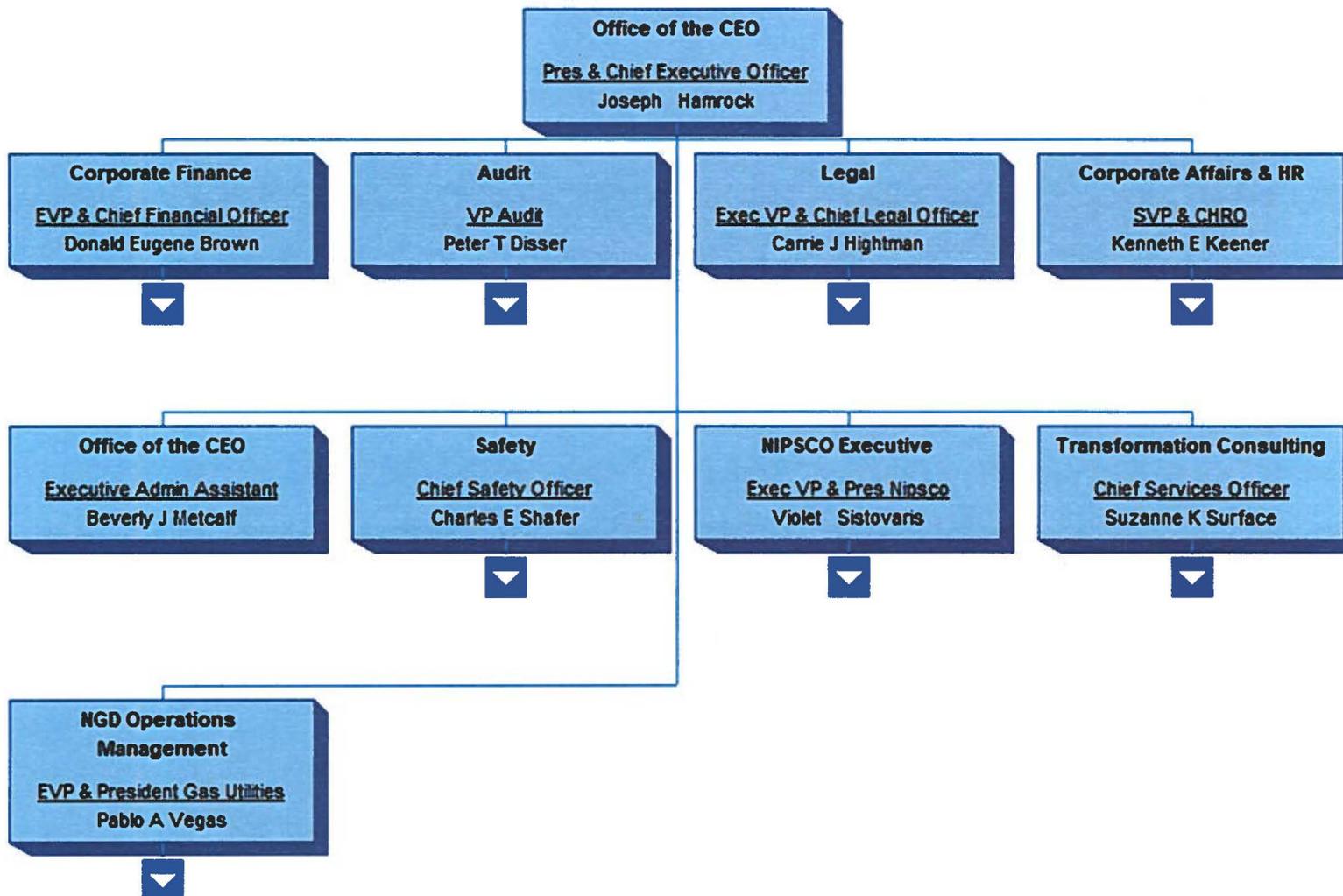
Maximum Commodity Rates 1/, 2/, 3/, 4/ -----	RECEIPT ZONE	DELIVERY ZONE							
		0	L	1	2	3	4	5	6
	0	\$0.1674		\$0.3525	\$0.4755	\$0.4873	\$0.7535	\$0.7741	\$0.9563
	L		\$0.1473						
	1	\$0.2507		\$0.2439	\$0.3276	\$0.4610	\$0.6420	\$0.7019	\$0.8445
	2	\$0.4747		\$0.3205	\$0.1644	\$0.1552	\$0.2610	\$0.3735	\$0.4625
	3	\$0.4863		\$0.2629	\$0.1670	\$0.1193	\$0.2703	\$0.4506	\$0.5125
	4	\$0.6159		\$0.5658	\$0.2171	\$0.3270	\$0.1969	\$0.2265	\$0.3340
	5	\$0.7329		\$0.5204	\$0.2284	\$0.2760	\$0.2308	\$0.2195	\$0.2821
	6	\$0.8492		\$0.5980	\$0.4065	\$0.4481	\$0.3950	\$0.2097	\$0.1695

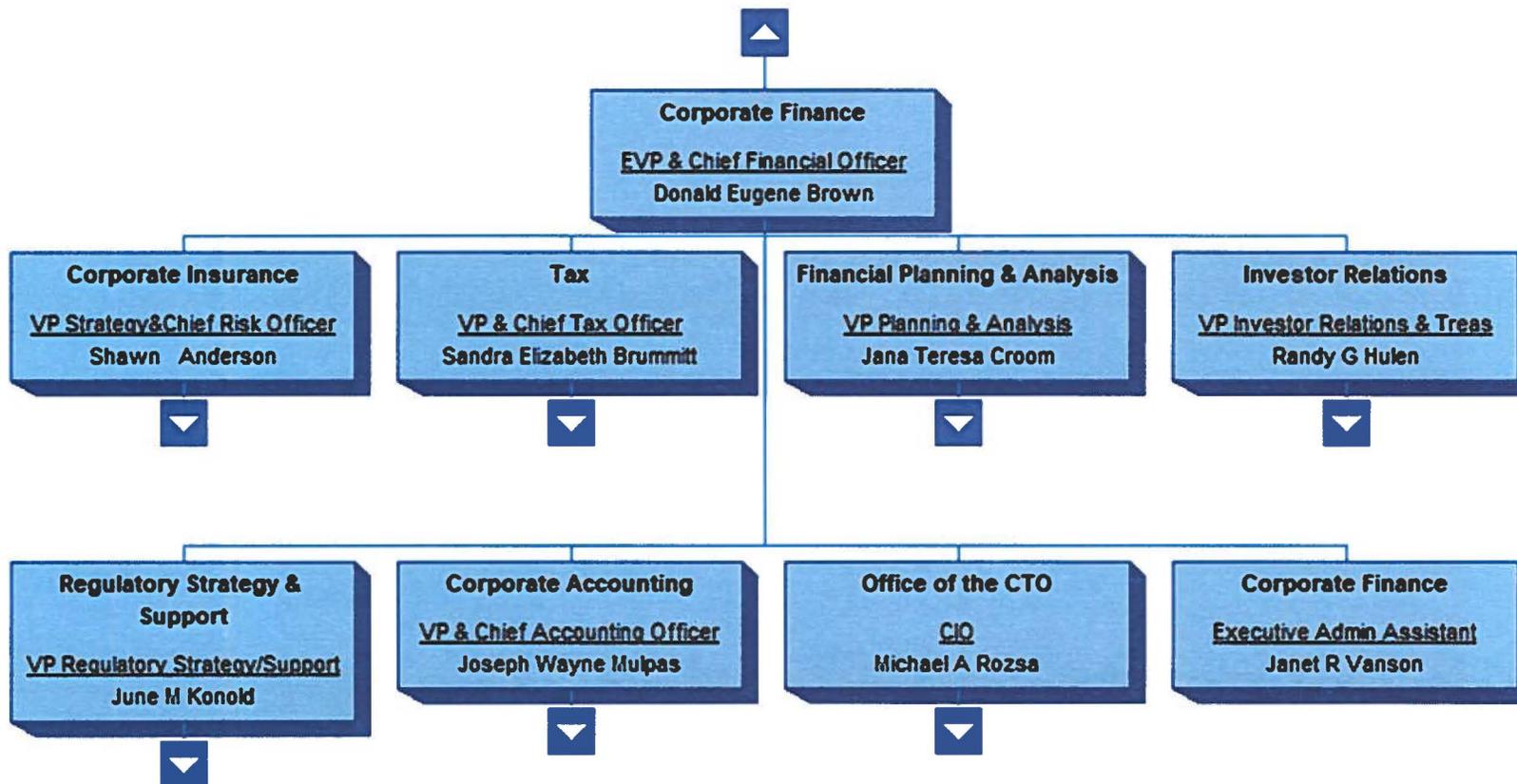
Notes:

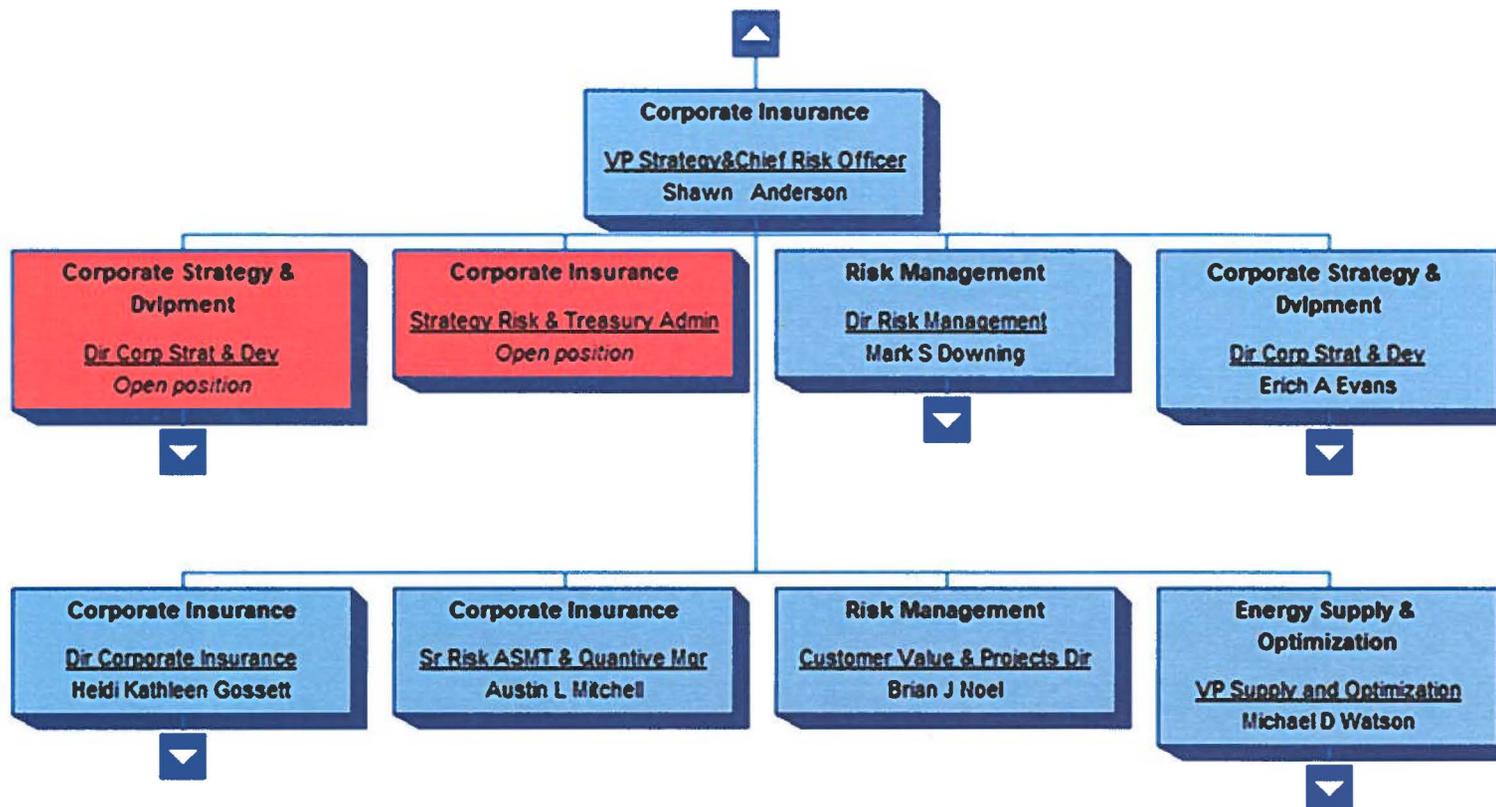
- 1/ Rates stated above exclude the ACA Surcharge as revised annually and posted on the FERC website at <http://www.ferc.gov> on the Annual Charges page of the Natural Gas section. The ACA Surcharge is incorporated by reference into Transporter's Tariff and shall apply to all transportation under this Rate Schedule as provided in Article XXIV of the General Terms and Conditions.
- 2/ The applicable F&LR's and EPCR's, determined pursuant to Article XXXVII of the General Terms and Conditions, are listed on Sheet No. 32.
- 3/ Includes a per Dth charge for the PCB Surcharge Adjustment per Article XXXII of the General Terms and Conditions of \$0.0000 Daily Reservation.
- 4/ Includes a per Dth charge for the PS/GHG Surcharge Adjustment per Article XXXVIII of the General Terms and Conditions of \$0.0006 Daily Reservation, \$0.0007 Commodity.

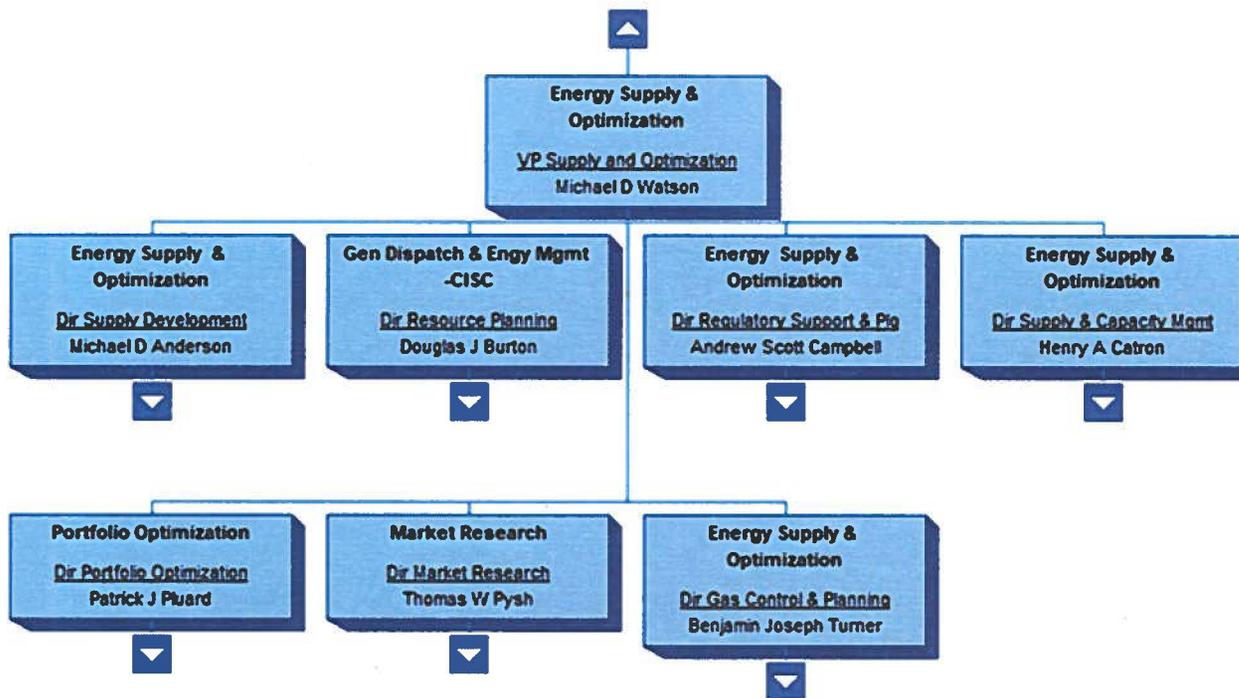
KY PSC Case No. 2017-00453  
Commission Staff's Information Request Set 1 No. 9  
Attachment D

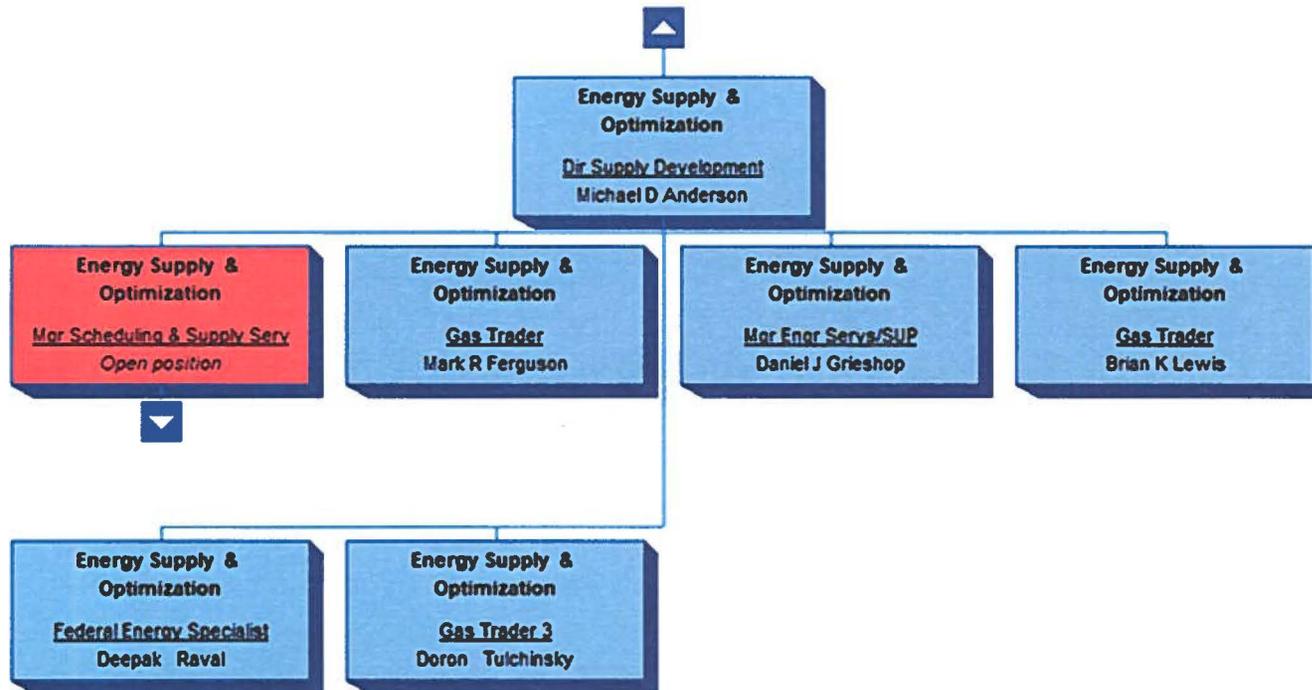
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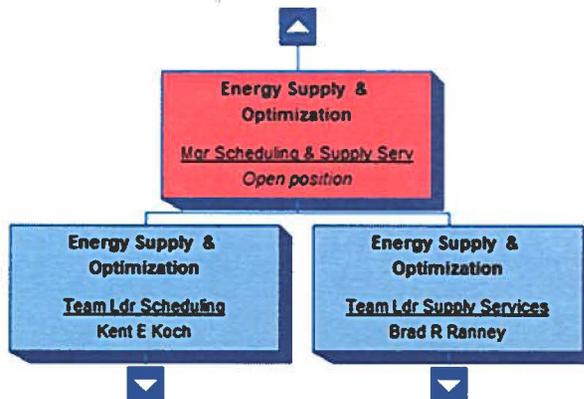


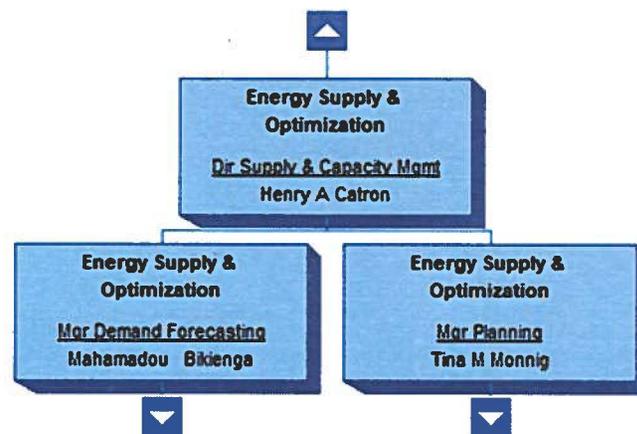


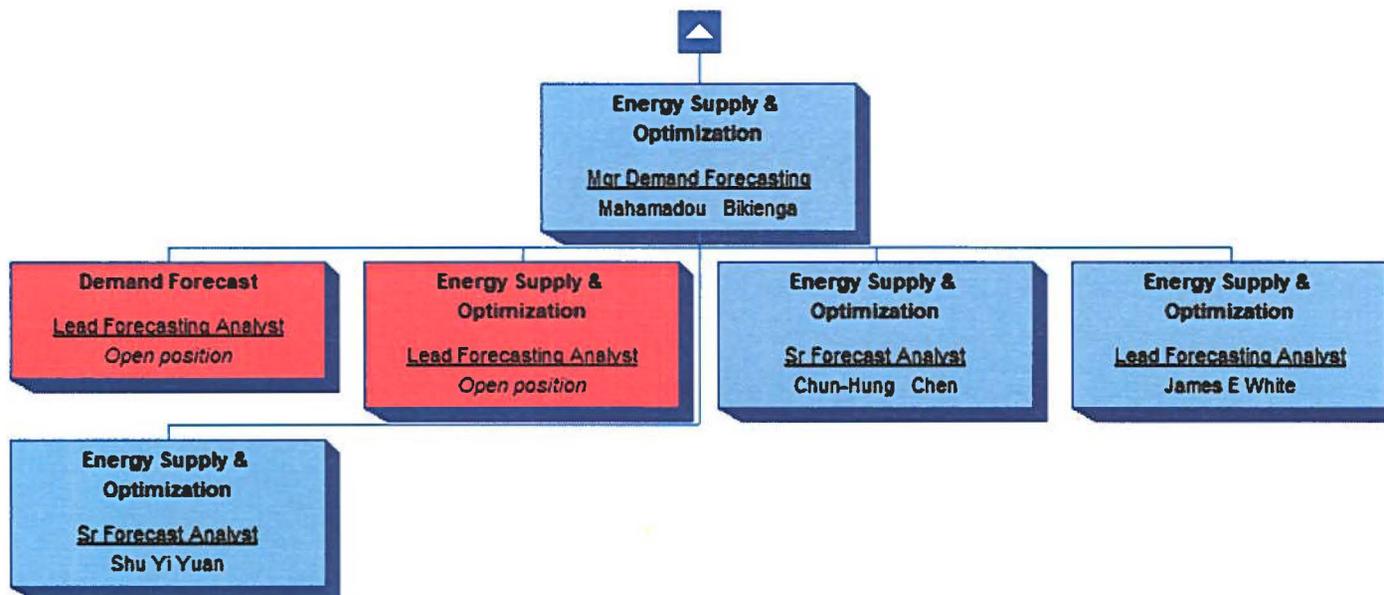


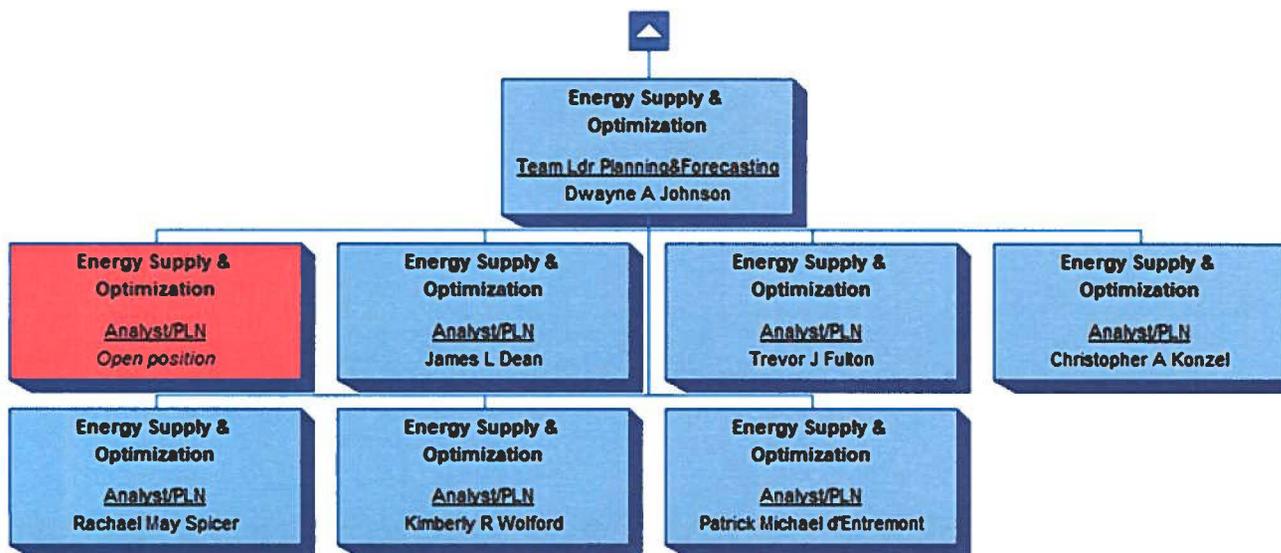
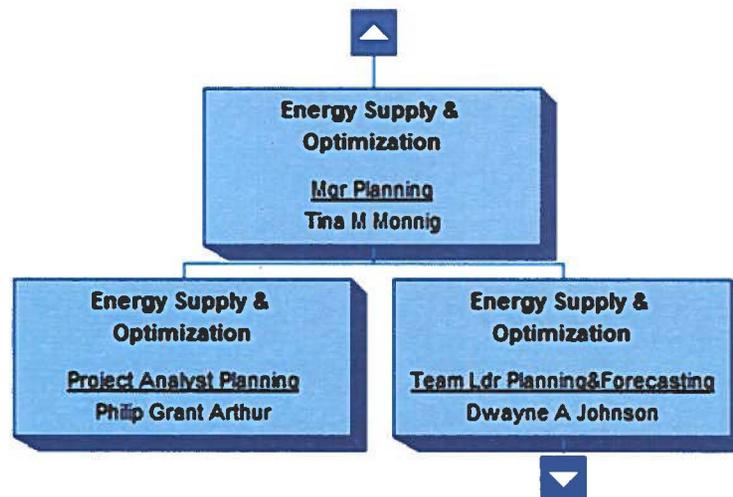


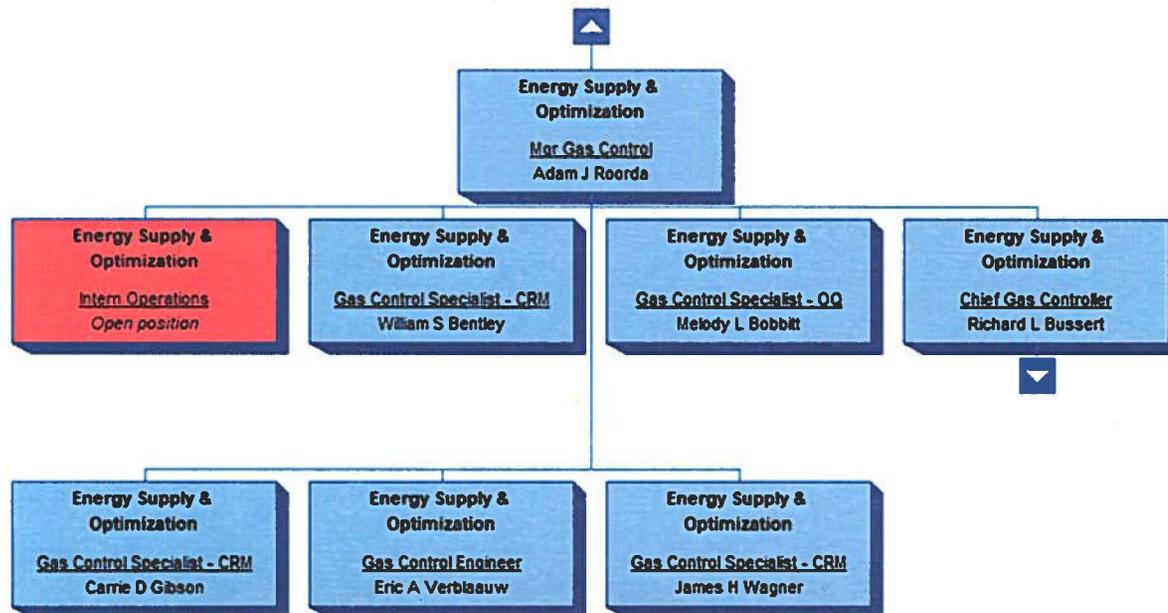
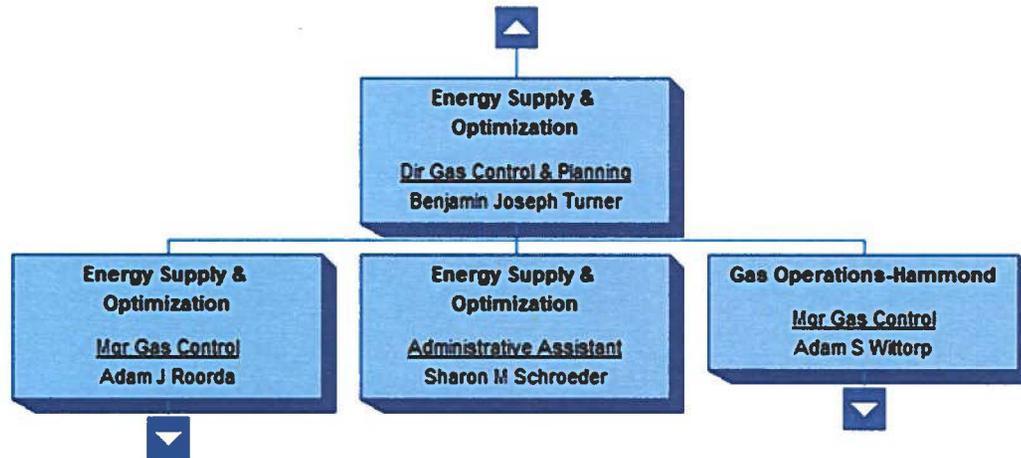


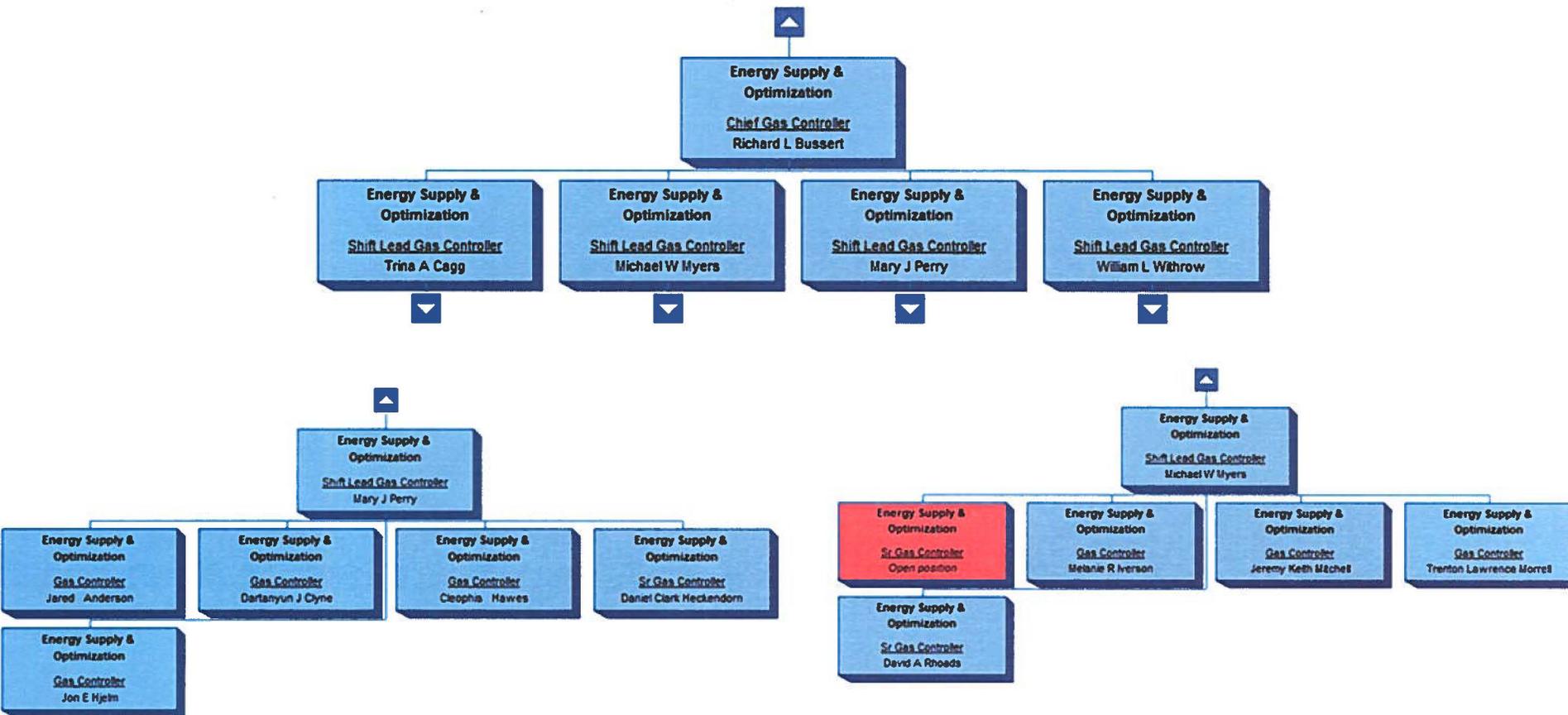


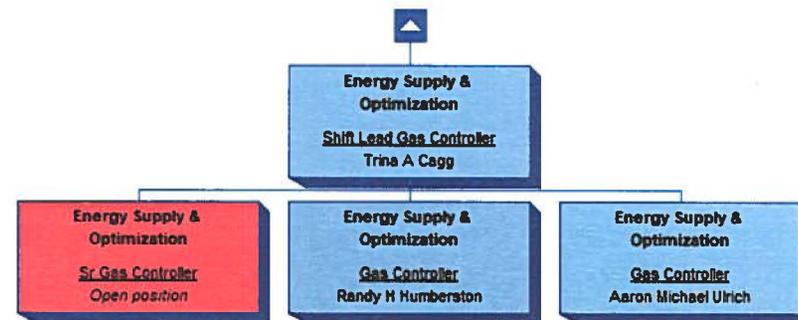












## Forecasting Analyst

### Job Description

#### Responsibilities

Develop customer, energy, and peak demand forecasts for the NiSource natural gas and electric distribution companies. Provide forecast variance analysis as well as other economic analysis as required. Prepare testimony and appear as expert witness. Experience with econometric forecasts and interpreting statistical model results are a requirement for this position. Previous IT work experience is a plus.

#### Key Results:

- Detailed and accurate forecasts including statistical analysis support
- Functional quantitative and mathematical models
- Comprehensive, clear regulatory, accounting, and financial planning support
- Clear explanations of forecasts and variances
- Expert forecasting consulting advice

#### Essential Responsibilities

- Forecast Analyst
  - Performs required duties under close supervision
  - Assists in statistical and econometric analysis of business and forecasting issues
  - Produces forecast performance reports
  - Develops and maintains computer forecasting applications
  - Coordinates the distribution of forecast files
  - Communicates effectively - in both oral and written forms
  - Performs IT duties related to the maintenance of the forecast
- Senior Forecast Analyst
  - Provides functional guidance to Forecast Analysts
  - Performs required duties with minimal supervision
  - Develops and maintains models for all forecast applications
  - Applies statistical and econometric techniques to analyze business issues
  - Analyzes forecast performance and recommends changes
  - Provides statistical, economic and forecasting expertise
  - Responds to interrogatories regarding forecast methods
  - Prepares regulatory reports
  - Monitors new demand modeling techniques and procedures for risk analysis
  - Analyzes and interprets regulations, orders, and reports from regulatory bodies
  - Coordinates activities within assigned projects
  - Coordinates the development of economic forecasts and scenarios
  - Develop and maintains databases
  - Research, investigate and recommend new systems and hardware
  - Performs IT duties related to the maintenance of the forecast
- Lead Forecast Analyst
  - Provides functional guidance to Forecast Analysts and Senior Forecast Analysts

- Leads projects and provides supervision to project team members
- Develops new modeling and forecasting methods for current and future applications
- Keeps abreast of forecasting and modeling techniques, general economic and energy industry issues, and procedures for risk analysis
- Provides statistical, economic and forecasting expertise to special studies and teams
- Writes application programs on PC and mainframe computers
- Writes responses to interrogatories concerning statistical and forecasting methods
- Meets with Commission staff and intervenors in informal discovery of forecast methods
- Provides expert testimony advice and participates in evaluation of related negotiations
- Understands how forecast data is used by other departments and external users
- Provides expert technical, statistical, economic, and forecasting advice to the Regulatory team, other departments, and outside parties
- Performs IT duties related to the maintenance of the forecast

**Qualifications:**

**Forecast Analyst**

*Required:*

- BS/BA in Economics, Mathematics, Applied Statistics or other quantitative discipline
- Training in statistical and forecasting methods
- Ability to work under some pressure with multiple tasks and tight deadlines
- Exposure to quantitative software including spreadsheets and statistical packages

*Preferred:*

- Experience in developing applications on PCs and mainframe computers
- Experience with SAS statistical package
- Graduate degree in Economics, Mathematics, Applied Statistics, or other quantitative discipline
- Experience in written and oral presentations of statistical and economic analyses

**Senior Forecast Analyst**

*Required:*

- Required criteria listed under Forecast Analyst plus
- Proven experience in forecasting and econometric methods
- Proven experience with statistical software

*Preferred:*

- Graduate degree in Economics, Mathematics, Applied Statistics, or other quantitative discipline
- Experience in written and oral presentations of statistical and economic analyses
- Training in econometric methods with experience in application
- Expert witness training
- Utility forecasting experience
- IT background a plus

**Lead Forecast Analyst**

*Required:*

- Required criteria listed under Senior Forecast Analyst plus

- Proven ability to lead projects
- Proven ability to lead discussions with outside stakeholders

*Preferred:*

- Preferred criteria listed under Senior Forecast Analyst plus
- Expert witness experience
- IT background a plus

## Scheduling Analyst

### Job Description

#### Responsibilities

Provide pipeline scheduling and capacity asset management support services to CKY, CMD, COH, CPA, CGV and CMA including capacity release activity related to the Customer Choice programs; asset management arrangements; and SCO programs. Establish and maintain relationships with internal and external stakeholders as needed.

#### Principal Duties and Responsibilities:

- Maintain the day-to-day functions of scheduling transported gas supplies and capacity release and acquisition activity in a manner which provides service to customers while maximizing the revenue and other related benefits derived from LDC incentive programs.
- Monitor and recommend action in response to ever changing operating and reporting requirements
- Evaluate the utilization of contracts and advise Gas Traders of current procurement and transportation opportunities.
- Support initiatives related to Supply & Optimization, as well as the implementation efforts.
- Support the various Customer Choice and SCO programs through capacity release activity, marketer interaction and training.
- Monitor contracts and pipeline tariffs to assure rules are followed and utilized for procurement decisions.
- Provide closing information to Supply Purchase Services for use in invoice / billing reconciliation.
- Provide scheduling and contract information to Supply & Capacity Planning for use in modelling / forecasting.
- Support contractual relationships with external parties
- Represent department and company to external and internal counterparts
- Communicate effectively with suppliers, pipelines, LDC's, marketers, gas customers, and others who provide or receive services from Supply & Optimization.
- Assist in the development of computer systems capable of enhancing scheduling processes, planning, and operations
- Provide input and information used in state and federal regulatory proceedings
- Review capacity and assets and make recommendations to ensure safe and reliable gas supply to the customer
- Stay abreast of applicable industry and tariff changes and advise management of possible impacts
- Cultivate business relationships with suppliers, customers, pipelines and/or trade partners
- Participate in internal process reviews; identify and implement improvements
- Establish and meet goals and objectives
- Support functional consistency, process standardization and operational excellence
- Fulfill internal and external reporting requirements
- Attend and participate in marketer, customer, pipeline and regulatory meetings as needed

- Maintain industry knowledge.
- All other duties and responsibilities as assigned.

**Required Selection Criteria:**

- For Job Posting: Please respond to each of the criteria required selection questions, and be prepared to provide specific examples that demonstrate how your skills, abilities, and/or work experience meet the position criteria.
- Knowledge of, and proven experience with scheduling and/or nominations
- Strong analytical and strategic-thinking/planning abilities
- Ability to identify, create and implement new processes, or process improvements
- Knowledge of LDC and pipeline tariffs
- Strong problem solving and decision making skills
- Strong organizational/planning skills
- Ability to create, understand, and interpret contracts and complex agreements
- Ability to work across departments collaboratively
- Excellent oral and written communication skills
- Proven ability to work independently
- Ability to gain respect and trust from others, and build favorable business relationships
- Proven track record of achieving results
- Proven ability to pay close attention to detail
- Proven ability to multi-task and effectively prioritize workload
- Strong sense of urgency, and ability to meet deadlines
- Recognize strategic implications of problems and issues
- Experience using PC, Microsoft Office, Lotus Notes, Pipeline EBBs and GasSource

**Education:**

- Requires bachelor's degree or comparable industry-related work experience

**Mental and Physical Requirements:**

- Some travel may be required
- Frequent time may be required outside of traditional business hours / on-call rotation

## Manager, Planning

### Job Description

#### Responsibilities

Manages the Supply & Capacity Planning functions within Commercial Operations and manages the associated staff. Manages the determination of the optimal gas portfolio assets for NGD (including supply levels, firm transport levels, storage levels and peaking levels) that provide reliable service at the best cost to firm customers for the long term. Manages on a monthly and daily basis, the determination of the optimal usage of these gas portfolio assets for each NGD company, including capacity release, parks and loans, and off-system sales. Manages the development and delivery of a five-year projection for the purchases and storage usage and costs of the gas supply assets for Financial Planning. Manages the development of various regulatory reports and analyses, including Strategic Gas Supply Plans (SGSP), development of gas cost and rate filings. Manages the development of the design day forecast and determination of the design criteria.

The Manager is to establish credible and communicative internal working relationships requiring expertise in planning issues and successful working relationships with external stakeholders such as suppliers, pipeline personnel and state regulators pertinent to the planning and optimization of the NGD companies' gas supply and capacity portfolios.

#### Essential Responsibilities:

- Management and implementation of processes that promote the optimization of reliable, best cost natural gas supplies and assets for each NGD LDC
- Maintenance of expert knowledge of supply planning & optimization processes
- Performs all required supervisory functions such as performance evaluations in accordance with established policies and procedures
- Negotiates & Manages service contracts with vendors of software and services used for Supply & Capacity Planning purposes
- Manages the development of the optimal gas portfolio assets including gas supply levels, firm transportation levels, firm storage and peaking levels to provide a safe and reliable supply at the lowest cost to firm customers
- Manages the development of SENDOUT , including monthly optimal usage of the gas portfolio assets, storage projections, term analysis, hedge study, etc.
- Manages the development of the monthly & seasonal gas portfolio assets available for capacity release, parks & loans, and off-system sales
- Manages the development of the 5 year optimal usage plan for the gas portfolio assets for Financial Planning purposes
- Manages the development of SENDOUT support of Regulatory items, including gas cost audits, SGSP, etc.
- Manages the Daily Gas Operational Outlook analysis and process. Manages other operational analysis. Ensure adherence to contractual and tariff limits by recommending required action on a daily basis to balance supply vs demand.

- Manages the development of the Design Day Forecast
- Anticipates changes in the industry, communicates these changes to other team members and adjusts planning practices accordingly
- Recommends strategic alternatives to Management
- Establishes successful working relationships with suppliers, pipelines, LDCs, marketers, customers and others who provide or receive services
- Assists in the determination and development of new services and programs that enhance value for customers and shareholders
- Prepares testimony, testifies and/or acts as witness before state and federal regulatory agencies
- Assists in the development of company policies and positions for Regulatory proceedings (rate cases, rulemaking, etc.) as directed
- Manages economic and technical studies to determine optimum supply/capacity portfolios in support of service, reliability and cost goals
- Oversees preparation of data request responses as assigned
- Fosters teamwork among department personnel and other business units that are committed to organizational goals
- Represents the department and company in external and internal stakeholders processes as directed
- Assures the integrity of data and data collection systems related to weather, demand, purchases, and other related variables that influence gas supply, customer demand or prices

### **Selection Criteria**

- Strong leadership capability
- Strong team participation skills
- Develops effective working relationships with internal and external stakeholders
- Effective liaison between diverse professions and layers of management
- Strong written and oral communication skills
- Strong organizational / time management skills
- Proven ability to exercises sound judgment and initiate solutions
- Adept and comfortable with the use of computer technology
- Proven analytical skills
- Proven experience with transportation and supplier related activities/functions/programs
- Strong analytical and strategic-thinking/planning abilities
- Proven ability to identify, create and implement new processes, or process improvements
- Experience in regulatory matters
- Demonstrated ability to read, interpret, create and implement state-specific tariffs and rate structures
- Knowledge of LDC and pipeline tariffs
- Experience with managing, influencing and driving change
- Strong problem solving and decision making skills
- Strong organizational/planning skills
- Ability to create, understand, and interpret contracts and complex agreements
- Ability to work across departments collaboratively
- Excellent oral and written communication skills

- Proven ability to work independently
- Ability to gain respect and trust from others, and build favorable business relationships
- Proven track record of achieving results
- Proven ability to multi-task and effectively prioritize workload
- Strong sense of urgency, and ability to meet deadlines
- Recognize strategic implications of problems and issues

**Preferred for Selection:**

- Works well in team environment
- Work experience that has resulted in a proven expertise in the development and execution of physical and financial derivative gas supply strategies
- Knowledgeable on computer technologies used by the department
- Recognize strategic implications of problems and issues
- Coaches others in the development of their skills
- Expert knowledge of LDC and pipeline tariffs
- Managerial and/or supervisory experience
- Knowledge of federal and state regulatory processes/practices and the significance of operating in a highly regulated industry

**Education/Work Experience:**

*Required for Selection:*

- BS/BA in a quantitative discipline or equivalent experience
- 5 years gas industry experience

*Preferred for Selection:*

- 10 years professional work experience
- Recent physical gas supply, or gas transportation experience
- Masters degree or some post-graduate studies

## Manager, Demand Forecasting

### Job Description

#### Responsibilities

To manage the development of short and long range demand forecasts and studies for the NiSource distribution companies (both gas and electric). To oversee the development of monthly forecasts used to support rate proceedings, financial planning, supply planning, and other management needs.

#### Key Results:

- Accurate, timely and reliable demand forecasts for all NiSource distribution companies
- Comprehensive statistical analyses, functional data bases and mathematical models
- Expert Regulatory support, as a Witness for Rate Cases and Other Filings
- Reliable and timely weather data and related impacts
- Collaborative work with business partners, including Energy Supply and Optimization, Financial Planning and Accounting

#### Essential Responsibilities:

- Manages the development of short and long range demand forecasts for each NiSource gas and electric distribution company by using demand models employing such techniques as econometrics, time series and end use analysis.
- Advises management regarding the demand forecasts and inherent implications.
- Coordinates forecast data for presentation to management and business partners.
- Testifies before regulatory agencies concerning projected usage forecasts and methodologies.
- Responds to interrogatories from various groups including state regulatory agencies. Assists in the preparation of demand related filings. Coordinates the preparation of the forecast reports required by regulatory agencies.
- Manages and oversees the development of CHOICE marketer demand curves and related applications.
- Administers contracts with outside consulting firms for data relating to demand modeling.
- Analyzes, determines and communicates strengths and weaknesses of the forecasting methodologies currently employed and further identifies, coordinates and integrates appropriate data into the forecast modeling system.
- Collaborates and consults with energy supply, regulatory, accounting and financial planning personnel concerning demand forecasts and uncertainty/risk analysis related to demand.
- Manages the development of demand forecast and weather variance analyses.
- Performs normal supervisory/managerial functions in accordance with established Company policies, including providing performance evaluations, development, and training. Directs, motivates, leads and develops team to improve performance and capabilities.

#### Key Work Experiences/Education:

##### *Required for Selection:*

- BS/BA in Economics, Statistics, or other quantitative discipline.

- 3 to 5 years of experience in forecasting and statistical methods.
- Team player, ability to work well with a wide variety of people at all levels, ability to adapt readily to change and flexibility to undertake different roles and lead people.
- *Preferred for Selection:*
- Graduate degree in Economics, Statistics, or other quantitative discipline.
- 5+ years of experience in forecasting and statistical methods.
- Written and oral presentations of statistical and economic analyses.
- Demonstrated track record of adhering to rigid time schedules, and coordination of efforts with other departments.
- Demonstrated record of creative and innovative thinking

**Technical/Functional Competencies:**

*Required for Selection:*

Excellent analytical capabilities, strong leadership skills, effective communication (oral and written) skills, ability to effectively manage multiple tasks and manage through conflicting deadlines, understanding of the natural gas and electric industries, a sound understanding of economic and econometric theory, ability to evaluate the reasonableness of data received and disseminated, ability to effectively employ computer skills.

**COLUMBIA GAS OF KENTUCKY, INC.  
RESPONSE TO COMMISSION STAFF'S FIRST REHEARING  
INFORMATION REQUESTS  
DATED JANUARY 16, 2020**

10. Refer to the Cooper Testimony, page 6, lines 2-6, in which Ms. Cooper states that in 2001, the Commission encouraged LDCs to consider innovative approaches, such as PBRs, as a means of improving gas procurement performance to mitigate higher gas prices, price volatility, and lessen the impact on customers while ensuring that LDCs are able to recover all reasonable levels of gas costs.

a. Explain in detail whether the concern in 2001 for the higher cost of natural gas and price volatility still holds true in the present time.

b. Compare and contrast the price volatility of natural gas from when the Commission encouraged LDCs to consider means to improving gas procurement performance in 2001 to the present time.

c. Explain in detail whether Columbia Kentucky believes a PBR is still necessary in the current low cost natural gas environment.

**Response:**

- a. Please see response to Commission Staff's Information Request Set 1 No. 8. The same concern does not exist in 2020 as existed in 2001. The primary reason for this change is due to the development of drilling and completion techniques which made gas supplies from shale resources economical and abundant and reduced the US' dependence on imported natural gas supplies. The abundance of shale gas supplies has also created new marketplace competitors for natural gas supplies including increased use of natural gas in electric generation and the export of natural gas supplies as Liquefied Natural Gas (LNG). The interest in natural gas prices compared to other energy alternatives, volatility and reliability are as pertinent today as ever.
- b. In 2001 the natural gas marketplace experienced unusual volatility driven by an extremely wide range of temperatures. The market experienced the high for 2001 in January following a very cold November and December 2000 and a low in October following a mild summer. Subsequent years experienced varying volatility. Since supplies from shale resources became a significant component of the supply portfolio for the US natural, gas price volatility has diminished but has not disappeared. Over the last three years, 2017 – 2019, natural

gas price volatility as measured by the New York Mercantile Exchange (NYMEX) has continued with differences between high and low prices averaging in excess of \$1.60 per Dth.

- c. Columbia believes a PBR is still necessary. In today's low cost commodity market the perspectives are different than in 2001, but the concerns of volatility, affordability and reliability remain relevant. Columbia's application of November 30, 2017 sought authorization to extend its then effective PBR mechanism for an additional five year period to retain the incentive to drive for greater gas cost savings than would be realized absent the mechanism yet ensure no diminution of security of supply. A properly designed PBR provides the incentive to develop, pursue and manage creative supply arrangements to improve cost performance and maintain reliability all the while benefiting customers and the company. It should be remembered that competition exists between jurisdictions and potential counterparties for any extra value that might be created or opportunities that might be developed. All else being equal, rational economic and fiscally responsible behavior would seek to accomplish the transaction in the environment that provides the greatest opportunity between alternatives. It is for these

reasons that Columbia believes a proper PBR is still necessary even in a low-cost natural gas environment.

**COLUMBIA GAS OF KENTUCKY, INC.  
RESPONSE TO COMMISSION STAFF'S FIRST REHEARING  
INFORMATION REQUESTS  
DATED JANUARY 16, 2020**

11. Refer to the Cooper Testimony, page 6, lines 9-13, in which Columbia Kentucky states that Atmos Energy and Louisville Gas and Electric Company also have PBRs for gas cost incentives. Explain whether Columbia Kentucky is aware of any other natural gas utility in the state of Kentucky that has an approved PBR mechanism.

**Response:** Other than Atmos, LG&E and its own, Columbia is unaware of any natural gas utility in Kentucky that currently has an approved PBR mechanism. Columbia is unaware of any other LDC having requested and been denied a PBR mechanism.

KY PSC Case No. 2017-00453  
Commission Staff's Information Request Set 1 No. 12  
Respondent: Judy M. Cooper

**COLUMBIA GAS OF KENTUCKY, INC.  
RESPONSE TO COMMISSION STAFF'S FIRST REHEARING  
INFORMATION REQUESTS  
DATED JANUARY 16, 2020**

12. Refer to the Cooper Testimony, page 6, lines 13-17. Explain in detail, Columbia Kentucky's gas cost incentive mechanism prior to the Commission's final Order approving Columbia Kentucky's PBR Mechanism in Case No. 2014-00350.

**Response:**

Columbia's gas cost incentive mechanism prior to the Commission's Final Order in Case No. 2014-00350 consisted of only a limited summer gas purchase component and an off-system sales and capacity release revenue sharing mechanism. The sharing percentage was split 50-50 between customers and Columbia.

Columbia's gas purchases during the summer months of April through October were compared to a market standard based on NYMEX futures prices. The summer monthly actual gas costs incurred were compared to that benchmark

price and any value realized was evenly shared between Columbia and its customers.

The off-system sales and capacity release revenue sharing mechanism evenly shared net revenues generated by off-system sales and capacity releases, other than operational and administrative transactions, between Columbia and its customers.

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13. Refer to the Cooper Testimony, page 7, line 15 through page 8, line 13. Explain whether Columbia Kentucky's position is that benchmarks for transportation costs should never be revised or reestablished. If not, explain how often Columbia Kentucky believes that benchmarks for transportation costs should be reevaluated.

**Response:**

Columbia believes that the appropriate benchmark for transportation costs are those rates established by the Federal Energy Regulatory Commission ("FERC"). The rates established by FERC are by definition fair, just and reasonable and provide the basis for a benchmark that is consistently determined. The FERC approved rates are revised periodically according to procedures established by FERC. To the extent a local gas distribution company such as Columbia Kentucky has the ability from time to time to develop strategies and arguments to support a rate lower than that prescribed by FERC does not mean such strategies and

arguments are permanent and using past success to establish a new benchmark does not recognize that changing market conditions impact those strategies and arguments.

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14. Refer to the Cooper Testimony, page 7, lines 17-18, regarding the change to Columbia Kentucky's Transmission benchmark.

a. Explain whether Columbia Kentucky is stating that based upon the modifications made in the Commission's October 22, 2019 final Order, it will stop seeking transportation cost savings.

b. State whether Columbia Kentucky would alter its efforts to negotiate discounted transportation contracts if Columbia Kentucky's PBR mechanism was discontinued.

c. Explain whether Columbia Kentucky seeks to purchase the lowest cost natural gas to provide to its customers regardless of whether it has a PBR mechanism or not.

**Response:**

a. No, Columbia is not stating that based upon the modification made by the Commission Order it will stop seeking transportation cost savings.

Columbia seeks to clarify the Commission's Order moving forward and to

assist the Commission in understanding the efforts Columbia has made and will continue to make to reduce transportation costs. Such clarification includes recognition that market conditions change and that a past reduction is not necessarily indicative of future opportunities.

b. Columbia would not intend to alter its efforts if the PBR is eliminated.

c. Given the structure of the commodity purchase component of the PBR, Columbia is at risk under certain market conditions. Columbia must reconsider purchasing supplies under the current incentive structure if the PBR is eliminated.

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15. Refer to the Cooper Testimony, page 8, lines 4-6.
- a. Provide an example of how the modifications made to Columbia Kentucky's PBR mechanism would create new risk.
  - b. Confirm that any portion of Columbia Kentucky's transportation costs above the reset benchmark would be shared with customers in the same manner that amounts below the benchmark are shared.

**Response:**

- a. One type of risk relates to procuring supplies that have three different pricing periods each month. Under Columbia's PBR in effect prior to October 22, 2019, Columbia had the ability to offset risks of this type with other components of the PBR. Without a PBR as previously structured, Columbia would be exposed to such risks without the ability to mitigate such risk under the PBR, thus Columbia is exposed to a new risk. Another type of risk would be the establishment of a TCI benchmark at a previously

negotiated discount no longer available given changes in market conditions.

b. This is the exact possibility of a new risk created by the Commission's modification of the TCI benchmark to deviate from the FERC approved rate as the TCI benchmark. Columbia Kentucky is concerned that such a situation could exist wherein it achieves savings for its customers off the FERC-approved just and reasonable rate but does not meet the benchmark established on a previously negotiated discount no longer supported by market conditions.

Consider an example where the FERC approved tariff rate is \$6.50 per Dth; Columbia negotiates a new discounted rate of \$6.00 per Dth; and the benchmark, based on a previously negotiated discount rate, is set at \$5.80 per Dth. In this example, customers benefit from a transportation cost savings of 50 cents per Dth from the new negotiated discount. But, the new negotiated discount rate is \$0.20 greater than the benchmark established by the prior discount. The wording of this question asks Columbia to confirm that, "any portion of Columbia Kentucky's transportation costs above the reset benchmark would be shared with customers in the same manner that amounts below the benchmark are shared." Surely Columbia would not be penalized for not meeting the benchmark and made to absorb a share of the

difference even when it had achieved a savings for its customers off the FERC approved, fair, just and reasonable rate. But, by the wording of the question, Columbia reads that to be the result. The incentive created by that kind of risk, is to default to the FERC approved rate. If the benchmark were properly established at the FERC approved rate, Columbia would share a portion of the savings created by the discounted rate and avoid a situation such as this example. Columbia does not believe the Commission intended for this type situation to occur and has requested clarification of this point in its rehearing request.

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16. Refer to the Cooper Testimony, pages 9-10, and the October 22, 2019 Order in this proceeding, page 2.

- a. Explain whether the gross-up factor would be symmetrical (i.e., reductions in the FERC approved rates result in a negative factor).
- b. Explain why it is appropriate to base Columbia Kentucky's gross-up factor on the FERC-approved Columbia Transmission tariff rate in effect when Columbia Kentucky's PBR was first approved in 2014 given that the October 22, 2019 Order states that, "A percentage gross-up factor will be applied to Columbia Kentucky's Transportation Cost benchmark according to *any future changes* in Columbia Transmission's FERC tariff rate *going forward*" (emphasis added).

**Response:**

- a. Yes, just as use of the FERC approved rate for the TCI benchmark is symmetrical.

b. Columbia continues to believe that the FERC approved rate is the appropriate benchmark. The value of the incentive is diminished if the benchmark is established any differently. Setting the benchmark at the previously negotiated discount completely dispels the incentive. Columbia believes that in providing for the recalculation of the benchmark on the date of its Order, the Commission recognized that setting the benchmark at a previously negotiated discount rate is an incorrectly designed incentive.

The language in the paragraph of the Commission's Order of October 22, 2019 that includes the quoted statement referenced in this question, begins with the sentence, "The Commission intends for there to be continuing improvement when it comes to negotiating discounted transportation rates, and therefore will set Columbia Kentucky's Transportation Cost benchmark for the Columbia Gas Transmission pipeline at \$4.1850." The quoted statement in question is followed by the sentence, "On the date of entry of this Order, percentage changes in Columbia Transmission's FERC tariff will be applied to Columbia Kentucky's Transportation Cost benchmark, setting forth a new benchmark for the period going forward." Reading the entire paragraph together, the Columbia Transmission benchmark is established on October 22, 2019 Order by computation in the following sequence:

1. \$4.1850
2. Calculate a percentage gross-up factor to apply to future changes in the FERC tariff rate going forward (36.9%)
3. Apply percentage changes in Columbia Transmission's FERC tariff to set forth a new benchmark for the period going forward (\$5.729)

Columbia's understanding of the calculations utilized in the above computation sequence are shown on page 10 of my Testimony.

In the alternative, if the Commission is not convinced that Columbia has shown continuous improvement by its actions taken to successfully retain a previously negotiated discount rate despite changing competitive markets, then it is appropriate to calculate the gross-up factor based on the FERC approved Columbia Transmission rate when the PBR was first approved in 2014 because it acknowledges the changing markets yet would still allow Columbia to partake in savings but not at the current level. In so doing, the benchmark established on the date of the Order as \$5.729 decreases the value of the incentive and reduces by 64% the benefit of the incentive as compared to Columbia's PBR as previously authorized.

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17. Provide the administrative costs and any additional cost incurred by Columbia Kentucky due to the existence of its PBR mechanism on a yearly basis.

**Response:**

Columbia does not track administrative costs at a detail level to provide the requested information.

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18. State whether any NiSource affiliate LDC now operates, or has ever operated, under a gas procurement PBR mechanism. If so, provide details of the mechanism.

**Response:**

Each of the other affiliated LDC's have some form of a gas procurement incentive/customer sharing mechanism in place, although none of the programs are identical to the Columbia Gas of Kentucky's PBR mechanism. The specific details of each of the affiliated company's programs are available in their respective LDC's approved and filed tariffs. Columbia's LDC affiliates; Columbia Gas of Maryland, Columbia Gas of Ohio, Columbia Gas of Pennsylvania and Columbia Gas of Virginia all receive a majority of their interstate pipeline capacity services from Columbia Gas Transmission, LLC and operate in a similarly situated environment for executing transactions related to gas procurement

incentive/sharing mechanisms. Below is a summary and the details of each of the various sharing mechanisms for these Companies.

**Columbia Gas of Ohio (COH)**

- COH retains 20% of Off-System Sales, and Capacity Release margins.

**Columbia Gas of Pennsylvania (CPA)**

- CPA retains 25% of Off-System Sales, and Capacity Release margins.

**Columbia Gas of Virginia (CGV)**

- CGV has a Benchmark program for all Off-System Sales and Capacity Release margins. The Benchmarks are adjusted each year based on the peak day delivery portfolio of the previous year. The current Benchmarks are \$3,175,410 and \$4,233,880.
- Below \$3,175,410 CGV retains zero percent, between \$3,175,410 and \$4,233,880 CGV retains 100% and above \$4,233,880 CGV retains 25%.

**Columbia Gas of Maryland (CMD)**

- CMD Off-System Sales margins have two different sharing percentages:

Off-System Sales that utilize “flowing supplies” CMD receive a 20% share.

Off-System Sales that utilize “incremental supplies” CMD receive 50% share.

- CMD Marketed Capacity Release sharing levels:

< \$100,000 CMD retains 10% share.

> \$100,000 CMD retains 20% share.

The \$100,000 benchmark is calculated based upon a program period of February through January.

- Spot Incentive Program

CMD shares 50% of savings or costs resulting from comparing spot gas purchases to the market index prices. (The Spot Incentive program is a 12 month program with all summer purchases included and only 1st of the month winter purchases included)

Columbia’s LDC affiliates NIPSCO Gas Company (Indiana) and Bay State Gas Company (Massachusetts) also have gas procurement incentive/sharing mechanisms structured specifically to the particular markets in which they operate but neither of these company’s receive service from Columbia Gas Transmission.

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19. Provide a detailed list of any other states that have approved natural gas procurement PBR mechanisms. Further, explain how Columbia Kentucky's PBR mechanism compares to active mechanisms in the other states. For any discontinued mechanisms, provide any available details regarding their discontinuance.

**Response:**

Please refer to Columbia's Response to Commissions Staff's First Rehearing Request Set 1 No. 18 for a comparison to PBR mechanisms in other states with NiSource affiliates. Information on PBR mechanisms in other states is shown on Attachment A.

## Performance-based Ratemaking Mechanisms

### California

- San Diego Gas & Electric is authorized a gas procurement PBR mechanism which is designed to encourage SDG&E through market-based incentives to reduce its cost of gas to customers consistent with efficient operations and service reliability. SDG&E also utilizes a gas PBR mechanism.
- SoCal Gas is also authorized a gas PBR mechanism.
- Pacific Gas & Electric has a “Core Procurement Incentive Mechanism” (CPIM) that serves as a performance-based ratemaking mechanism for PG&E’s core gas procurement portfolio.
- Southwest Gas also utilizes a CPIM (Sheet 32) that provides objective standards to measure gas procurement performance, and a methodology to share annual savings and costs between the Company’s shareholders and ratepayers.

### Indiana

- Indiana Gas Company (Vectren/CenterPoint) had a gas cost incentive mechanism until 2007 when it expired.

### Iowa

- MidAmerican was previously authorized to utilize a gas supply procurement plan but it does not appear in the company’s current gas tariff. The last known period of authorization was until October 31, 2016.

### Maryland

- In Order No. 89226 pursuant to Case No. 9618 the Maryland Public Service Commission expressed its interest in implementing performance-based ratemaking stating that, “PBRs can strike a balance between imposing additional obligations on the utilities that meet State policy goals and obtaining measurable benefits and providing value to customers.”
  - While no Maryland gas utility currently operates a PBR mechanism it would appear that the Commission is open to authorizing them in the near future. Washington Gas sought approval to implement a PBR plan all the way back in 2007 in Case No. 9104.

### Missouri

- Spire Missouri is authorized a Gas Supply Incentive Plan to reduce the impact of upward natural gas commodity price volatility on the Company’s customers.

### New Jersey

- New Jersey Natural Gas utilizes a Basic Gas Supply Service incentive program.

### **New York**

- New York State Electric & Gas utilizes a Gas Cost Incentive Mechanism.

### **Oklahoma**

- CenterPoint recover the costs associated with its energy efficiency programs and certain incentives through a performance-based ratemaking plan rider.
- Oklahoma Natural Gas Company (ONE Gas) also recovers the costs associated with its energy efficiency programs and certain incentives through a performance-based ratemaking plan rider.

### **Pennsylvania**

- UGI is authorized a revenue sharing incentive mechanism for off-system gas sales, exchange of natural gas, capacity release and storage asset management.

### **Tennessee**

- Chattanooga Gas (Southern) is authorized a PBR mechanism (Sheet No. 56) designed to encourage the utility to maximize its gas purchasing activities at minimum cost consistent with efficient operations and service reliability.
- Piedmont Natural Gas utilizes a Performance Incentive Plan which establishes a predefined benchmark index to which the Company's commodity cost of gas is compared.

### **Virginia**

- Virginia Natural Gas was authorized a five-year PBR plan in 2006.
- Washington Gas is currently authorized to utilize PBR recovery.

### **Wisconsin**

- Alliant Energy has a gas cost recovery mechanism.

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20. Provide a cost benefit analysis of the costs associated with Columbia Kentucky's negotiation of the discounted rate and the savings created from the PBR for ratepayers.

**Response:**

Please see responses to Commission Staff's First Request No. 17 and No. 21 regarding cost of the PBR to achieve savings. The PBR as previously authorized prior to October 22, 2019 resulted in savings created during the period April 2015 through October 2019 of approximately \$35.2M with more than half, or approximately \$18.5M retained by customers.

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21. Provide the costs incurred to achieve savings under Columbia Kentucky's PBR, and explain how those costs are recovered (i.e., through the GCA, netted against savings in the PBR, etc.).

**Response:**

Costs incurred by Columbia Kentucky for achievement of savings under Columbia Kentucky's PBR are primarily personnel related costs recovered through base rates. Columbia Kentucky greatly benefits through its affiliation with other NiSource LDCs in that the percentage of costs incurred for these services are a fraction of the total costs yet Columbia Kentucky benefits from the full knowledge and capabilities of the personnel engaged in the PBR activities. Columbia Kentucky is not able to make a direct comparison of these costs against PBR savings as related costs are not tracked in a manner to perform such a comparison.

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22. Refer to the application generally.

- a. Provide all instances since the inception of Columbia Kentucky's PBR mechanism in which Columbia Kentucky has paid more than the FERC-approved transportation rate for that service.
- b. If Columbia Kentucky has not paid more than the FERC-approved transportation rate for that service, explain if it is possible for an LDC to be charged more than the FERC approved rate for transportation.

**Response:**

- a. Columbia Kentucky has not paid more than the FERC-approved transportation rate since inception of the PBR mechanism.
- b. Yes, it is possible for an LDC to be charged more than the FERC approved rate for transportation under a negotiated rate agreement.

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23. Explain what costs Columbia Kentucky provides to the Energy Information Administration (EIA), and at what intervals Columbia Kentucky provides information to EIA.

**Response:** To the best of our knowledge, Columbia does not provide any information to the EIA.